

THE
BIRDS OF VIRGINIA

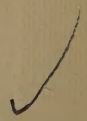


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BROWN-HEADED NUTHATCH

The Birds of Virginia

By
HAROLD H. BAILEY



WITH FOURTEEN FULL PAGE COLORED PLATES,
ONE MAP, AND ONE HUNDRED AND EIGHT
HALF-TONES TAKEN FROM NATURE

TREATING ONE HUNDRED AND EIGHTY-FIVE SPECIES AND SUBSPECIES;
ALL THE BIRDS THAT BREED WITHIN THE STATE.

1913

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For over forty years
he has been an active bird lover
and student, and the boyish enthusiasm he still
displays is an incentive for me to
follow in his footsteps.

To

My Father

I dedicate this book.

MAR 20 1939

Keller 509

INDEX

	PAGE
<i>Accipiter cooperi</i>	Cooper's Hawk. 333..... 109
<i>Accipiter velox</i>	Sharp-shinned Hawk. 332..... 105
<i>Actitis macularia</i>	Spotted Sandpiper. 263..... 71
<i>Egialitis meloda</i>	Piping Plover. 277..... 75
<i>Agelaius-p-phoeniceus</i>	Red-winged Blackbird. 498..... 201
<i>Aix sponsa</i>	Wood Duck. 144..... 26
<i>Aluco pratincola</i>	Barn Owl. 365..... 131
<i>Ammodramus-s-australis</i>	Grasshopper Sparrow. 546..... 223
<i>Anas platyrhynchos</i>	Mallard. 132..... 20
<i>Anas rubripes</i>	Black Duck. 133..... 22
<i>Anrostomus carolinensis</i>	Chuck-will's-widow. 416..... 166
<i>Anrostomus-v-vociferus</i>	Whip-poor-will. 417..... 167
<i>Aquila-chrysaetos</i>	Golden Eagle. 349..... 118
<i>Archilochus colubris</i>	Ruby-throated Hummingbird. 428..... 173
<i>Ardea-h-herodias</i>	Great Blue Heron. 194..... 38
<i>Asio flammeus</i>	Short-eared Owl. 367..... 137
<i>Asio wilsonianus</i>	Long-eared Owl. 366..... 134
<i>Astragalinus-t-tristis</i>	Goldfinch. 529..... 217
<i>Bæolophus bicolor</i>	Tufted Titmouse. 731..... 342
<i>Bartramia longicauda</i>	Upland Plover. 261..... 68
Bittern, American	190..... 33
Bittern, Least	191..... 35
Blackbird, Red-winged	498..... 201
Bluebird	766..... 359
Bobwhite	289..... 83
<i>Bombycilla cedrorum</i>	Cedar Waxwing. 619..... 264
<i>Bonasa-u-umbellus</i>	Ruffed Grouse. 300..... 88
<i>Botaurus lentiginosus</i>	Bittern. 190..... 33
<i>Branta-c-canadensis</i>	Canada Goose. 172..... 28
<i>Bubo-v-virginianus</i>	Great Horned Owl. 375..... 146
Bunting, Indigo	598..... 247
<i>Buteo-b-borealis</i>	Red-tailed Hawk. 337..... 111
<i>Buteo-l-lineatus</i>	Red-shouldered Hawk. 339..... 113
<i>Buteo platypterus</i>	Broad-winged Hawk. 343..... 115
<i>Butorides-v-virescens</i>	Green Heron. 201..... 47
Cardinal	593..... 241
<i>Cardinalis-c-cardinalis</i>	Cardinal. 593..... 241
Catbird	704..... 321
<i>Cathartes-a-septentrionalis</i>	Turkey Vulture. 325..... 97
<i>Catharista urubu</i>	Black Vulture. 326..... 100
<i>Catoptrophorus-s-semipalmatus</i>	Willet. 258..... 67
<i>Centurus carolinus</i>	Red-bellied Woodpecker. 409..... 161
<i>Certhia-f-americana</i>	Brown Creeper. 726..... 335
<i>Ceryle alcyon</i>	Belted Kingfisher. 390..... 151
<i>Chaetura pelagica</i>	Chimney Swift. 423..... 171
Chat, Yellow-breasted	683..... 313
Chickadee	735..... 344

INDEX

v

	PAGE
Chickadee, Carolina	736
Chordeiles-v-virginianus	Nighthawk. 420.....
Chuck-will's-widow	416
Circus hudsonius	Marsh Hawk. 331.....
Coccyzus-a-americanus	Yellow-billed Cuckoo. 387.....
Coccyzus erythrophthalmus	Black-billed Cuckoo. 388.....
Colaptes-a-auratus	Flicker. 412.....
Colaptes-a-luteus	Northern Flicker. 412-A.....
Colinus-v-virginianus	Bobwhite. 289.....
Compsothlypis-a-americana	Parula Warbler. 648.....
Compsothlypis-a-usneæ	Northern Parula Warbler. 648-A
Corvus-b-brachyrhynchos	Crow. 488.....
Corvus ossifragus	Fish Crow. 490.....
Corvus-c-principalis	Northern Raven. 486-A.....
Cowbird	495
Creepcr, Brown	726
Creciscus jamaicensis	Black Rail. 216.....
Crossbill	521
Crow	488
Crow, Fish	490
Cryptoglaux-a-acadica	Saw-whet Owl. 372.....
Cuckoo, Yellow-billed	387
Cuckoo, Black-billed	388
Cyanocitta-c-cristata	Blue Jay. 477.....
Dafila acuta	Pintail. 143.....
Dendroica-a-æstiva	Yellow Warbler. 652.....
Dendroica-c-cairnsi	Cairns's Warbler. 654-A.....
Dendroica cerulea	Cerulean Warbler. 658.....
Dendroica discolor	Prairie Warbler. 673.....
Dendroica-d-dominica	Yellow-throated Warbler. 663.....
Dendroica fusca	Blackburnian Warbler. 662.....
Dendroica magnolia	Magnolia Warbler. 657.....
Dendroica vigorsii	Pine Warbler. 671.....
Dendroica pensylvanica	Chestnut-sided Warbler. 659.....
Dendroica virens	Black-throated Green Warbler. 667
Dove, Mourning	316
Dryobates borealis	Red-cockaded Woodpecker. 395.....
Dryobates-p-medianus	Downy Woodpecker. 394-C.....
Dryobates-p-pubesceus	Southern Downy Woodpecker 394
Dryobates-v-auduboni	Southern Hairy Woodpecker. 393-B
Duck, Black	133
Duck, Mallard	132
Duck, Pintail	143
Duck, Wood	144
Dumetella carolinensis	Catbird. 704.....

	PAGE	
Eagle, Bald	352	119
Eagle, Golden	349	118
Egret	196	41
Egretta-c-candidissima	Snowy Egret. 197.....	43
Egret, Snowy	197	43
Empidonax flaviventris	Yellow-bellied Flycatcher. 463....	185
Empidonax minimus	Least Flycatcher.....	187
Empidonax virescens	Acadian Flycatcher. 465.....	186
Falco-p-anatum	Duck Hawk. 356-A.....	123
Falco-s-sparverius	Sparrow Hawk. 360.....	124
Flicker	412	163
Flicker, Northern	412-A	165
Florida cærulea	Little Blue Heron. 200.....	45
Flycatcher, Crested	452	178
Flycatcher, Acadian	465	186
Flycatcher, Olive-sided	459	181
Flycatcher, Yellow-bellied	463	185
Flycatcher, Least	467-G	187
Gallinule, Florida	219	63
Gallinula galeata	Florida Gallinule. 219.....	63
Gelochelidon nilotica	Gull-billed Tern. 63.....	5
Geothlypis-t-ignota	Florida Yellow-throat. 681-B.....	312
Geothlypis-t-trichas	Maryland Yellow-throat. 681.....	311
Gnatcatcher, Blue-gray	751	348
Goldfinch, American	529	217
Goose, Canada	172	28
Grackle, Boat-tail	513	212
Grackle, Purple	511	210
Grosbeak, Blue	597	244
Grosbeak, Rose-breasted	595	242
Grouse, Ruffed	300	88
Guiraca-c-cærulea	Blue Grosbeak. 597.....	244
Gull, Laughing	58	3
Hæmatopus palliatus	Oyster-catcher. 286.....	80
Haliæetus-l-leucocephalus	Bald Eagle. 352.....	119
Hawk, Broad-winged	343	115
Hawk, Cooper's	333	109
Hawk, Duck	356-A	123
Hawk, Marsh	331	103
Hawk, Sharp-shinned	332	105
Hawk, Sparrow	360	124
Hawk, Red-shouldered	339	113
Hawk, Red-tailed	337	111
Helinaia swainsoni	Swainson's Warbler. 638.....	280
Helmitheros vermivorus	Worm-eating Warbler. 639.....	281
Herodias egretta	Egret. 196.....	41
Heron, Black-crowned Night.....	202	50

	PAGE
Heron, Great Blue	194
Heron, Green	201
Heron, Little Blue	200
Hirundo erythrogastra	Barn Swallow. 613.....
Hummingbird, Ruby-throated.....	428
Hylocichla mustelina	Wood Thrush. 755.....
Hylocichla-f-fuscescens	Veery. 756.....
Icteria-v-virens	Yellow-breasted Chat. 683.....
Icterus galbula	Baltimore Oriole. 507.....
Icterus spurius	Orchard Oriole. 506.....
Iridoprocne bicolor	Tree Swallow. 614.....
Ixobrychus exilis	Least Bittern. 191.....
Jay, Blue	477
Junco-h-carolinensis	Carolina Junco. 567-E.....
Killdeer	273
Kingbird	444
Kingfisher, Belted	390
Kinglet, Golden-crowned	748
Lanius-l-migrans	Migrant Shrike. 622-E.....
Lanivireo flavifrons	Yellow-throated Vireo. 628.....
Lanivireo-s-alticola	Mountain Vireo. 629-C.....
Larus atricilla	Laughing Gull. 58.....
Loxia-c-minor	Crossbill. 521.....
Mallard	132
Martin, Purple	611
Meadowlark	501
Meadowlark, Southern	501-C
Megaquiscalus-m-major	Boat-tailed Grackle. 513.....
Melanerpes erythrocephalus.....	Red-headed Woodpecker. 406.....
Meleagris-g-silvestris	Wild Turkey. 310-A.....
Melospiza georgiana	Swamp Sparrow. 584.....
Melospiza-m-melodia	Song Sparrow. 581.....
Mimus-p-polyglottos	Mockingbird. 703.....
Mniotilta varia	Black and White Warbler. 636..
Mockingbird	703
Molothrus-a-ater	Cowbird. 495.....
Myiarchus crinitus	Crested Flycatcher. 452.....
Myiochanes virens	Wood Pewee. 461.....
Nannus-h-hiimalis	Winter Wren. 722.....
Nighthawk	420
Nuthatch, Brown-headed	729
Nuthatch, Red-breasted	728
Nuthatch, White-breasted	727
Nuttallornis borealis	Olive-sided Flycatcher. 459.....
Nycticorax-n-naevius	Black-crowned Night Heron. 202

	PAGE
<i>Ochthodromus wilsonius</i>	Wilson's Plover. 280..... 77
<i>Olor columbianus</i>	Whistling Swan. 180..... 30
<i>Oporornis formosus</i>	Kentucky Warbler. 677..... 309
Oriole, Baltimore	507
Oriole, Orchard	506
Osprey	364
Otus-a-asio	Screech Owl. 373..... 127
Ovenbird	674
Owl, Barn	365
Owl, Barred	368
Owl, Great Horned	375
Owl, Long-eared	366
Owl, Saw-whet	372
Owl, Screech	373
Owl, Short-eared	367
<i>Oxyechus vociferus</i>	Killdeer. 273..... 142
Oyster-catcher	286
<i>Passerherbulus caudacutus</i>	Sharp-tailed Sparrow. 549..... 74
<i>Passerherbulus-h-henslowi</i>	Henslow's Sparrow. 547..... 80
<i>Passerherbulus-m-maritimus</i>	Seaside Sparrow. 550..... 226
<i>Passerina cyanea</i>	Indigo Bunting. 598..... 224
<i>Passer domesticus</i>	English Sparrow. (Introduced Breeder)
<i>Pandion-h-carolinensis</i>	Osprey. 364..... 221
<i>Penthestes-a-atricapillus</i>	Chickadee. 735..... 127
<i>Penthestes-c-carolinensis</i>	Carolina Chickadee. 736..... 344
<i>Petrochelidon-l-lunifrons</i>	Cliff Swallow. 612..... 344
<i>Peucea-a-bachmani</i>	Bachman's Sparrow. 575-A..... 255
Pewee, Wood	461
<i>Phleotomus-p-pileatus</i>	Pileated Woodpecker. 405..... 232
<i>Phasianus torquatus</i>	Ring-necked Pheasant. (Introduced Breeder)
Pheasant, Ring-necked	Introduced Breeder..... 183
<i>Philohela minor</i>	Woodcock. 228..... 158
Phoebe	456
<i>Pipilo-e-erythrophthalmus</i>	Towhee. 587..... 87
<i>Piranga erythromelas</i>	Scarlet Tanager. 608..... 249
<i>Piranga-r-rubra</i>	Summer Tanager. 610..... 250
<i>Planesticus-m-migratorius</i>	Robin. 761..... 355
<i>Planesticus-m-achrusterus</i>	Robin, Southern. 761-B..... 359
Plover, Piping	277
Plover, Upland	261
Plover, Wilson's	280
<i>Porcetes-g-gramineus</i>	Vesper Sparrow. 540..... 75
<i>Poliophtila-c-carulea</i>	Blue-gray Gnatcatcher. 751..... 68
<i>Progne-s-subis</i>	Purple Martin. 611..... 77
<i>Protonotaria citrea</i>	Prothonotary Warbler. 637..... 222
<i>Quiscalus-q-quiscula</i>	Purple Grackle. 511..... 348
	210

	PAGE
Rail, Black	216
Rail, Clapper	211
Rail, King	208
Rail, Virginia	212
Rallus-c-crepitans	Clapper Rail. 211.....
Rallus elegans	King Rail. 208.....
Rallus virginianus	Virginia Rail. 212.....
Raven, Northern	486-A
Redstart	687
Regulus-s-satrapa	748
Riparia riparia	Bank Swallow. 616.....
Robin	761
Robin, Southern	761-B
Rynchops nigra	Black Skimmer. 80.....
Sandpiper, Spotted	263
Sapsucker, Yellow-bellied	402
Sayornis phoebe	Phoebe. 456.....
Seiurus aurocapillus	Oven-bird. 674.....
Seiurus motacilla	Louisiana Water-thrush. 676.....
Setophaga ruticilla	Redstart. 687.....
Shrike, Migrant	622-E
Sialia-s-sialis	Bluebird. 766.....
Siskin, Pine	533
Sitta-c-carolinensis	White-breasted Nuthatch. 727.....
Sitta canadensis	Red-breasted Nuthatch. 728.....
Sitta pusilla	Brown-headed Nuthatch. 729.....
Skimmer, Black	80
Sparrow, Bachman's	575-A
Sparrow, Chipping	560
Sparrow, English	Introduced Breeder.....
Sparrow, Field	563
Sparrow, Grasshopper	546
Sparrow, Henslow's	547
Sparrow, Seaside	550
Sparrow, Sharp-tailed	549
Sparrow, Song	581
Sparrow, Vesper	540
Sparrow, Swamp	584
Sphyrapicus-v-varius	Yellow-bellied Sapsucker. 402.....
Spinus pinus	Pine Siskin. 533.....
Spizella pusilla	Field Sparrow. 563.....
Spizella-p-passerina	Chipping Sparrow. 560.....
Stelgidopteryx serripennis	Rough-winged Swallow. 617.....
Sterna antillarum	Least Tern. 74.....
Sterna caspia	Caspian Tern. 64.....
Sterna forsteri	Forster's Tern. 69.....
Sterna hirundo	Common Tern. 70.....
Sterna maxima	Royal Tern. 65.....

	PAGE
<i>Sterna-s-acuflavida</i>	Cabot's Tern. 67..... 9
<i>Strix-v-varia</i>	Barred Owl. 368..... 139
<i>Sturnella-m-argutula</i>	Southern Meadowlark. 501-C..... 206
<i>Sturnella-m-magna</i>	Meadowlark. 501..... 203
Swallow, Bank	616..... 259
Swallow, Barn	613..... 256
Swallow, Cliff	612..... 255
Swallow, Rough-winged	617..... 261
Swallow, Tree	614..... 258
Swan, Whistling	180..... 30
Swift, Chimney	423..... 171
Tanager, Scarlet	608..... 249
Tanager, Summer	610..... 250
<i>Telmatodytes-p-palustris</i>	Long-billed Marsh Wren. 725..... 332
<i>Telmatodytes-p-marianæ</i>	Marian's Marsh Wren. 725-E..... 333
Tern, Cabot's	67..... 9
Tern, Caspian	64..... 6
Tern, Common	70..... 12
Tern, Forster's	69..... 9
Tern, Least	74..... 14
Tern, Royal	65..... 7
Thrasher, Brown	705..... 323
Thrush, Louisiana Water	676..... 307
Thrush, Veery	756..... 351
Thrush, Wood	755..... 351
<i>Troglodytes-a-aëdon</i>	House Wren. 721..... 328
<i>Thryomanes-b-bewicki</i>	Bewick's Wren. 719..... 327
<i>Thryothorus-l-ludovicianus</i>	Carolina Wren. 718..... 325
Titmouse, Tufted	731..... 342
Towhee	587..... 238
<i>Toxostoma rufum</i>	Brown Thrasher. 705..... 323
Turkey, Wild	310-A..... 91
<i>Tyrannus tyrannus</i>	Kingbird. 444..... 176
<i>Vermivora bachmani</i>	Bachman's Warbler. 640..... 283
<i>Vermivora chrysoptera</i>	Golden-winged Warbler. 642..... 286
<i>Vermivora pinus</i>	Blue-winged Warbler. 641..... 285
<i>Vireo-g-griseus</i>	White-eyed Vireo. 631..... 275
Vireo, Mountain	629-C..... 273
Vireo, Red-eyed	624..... 270
<i>Vireosylva-g-gilva</i>	Warbling Vireo. 627..... 271
<i>Vireosylva olivacea</i>	Red-eyed Vireo. 624..... 270
Vireo, Warbling	627..... 271
Vireo, White-eyed	631..... 275
Vireo, Yellow-throated	628..... 272
Vulture, Black	326..... 100
Vulture, Turkey	325..... 97

	PAGE
Warbler, Bachman's	640
Warbler, Black and White	636
Warbler, Blackburnian	662
Warbler, Blue-winged	641
Warbler, Black-throated Green	667
Warbler, Cairns's	654-A
Warbler, Cerulean	658
Warbler, Canada	686
Warbler, Chestnut-sided	659
Warbler, Golden-winged	642
Warbler, Hooded	684
Warbler, Kentucky	677
Warbler, Magnolia	657
Warbler, Parula	648
Warbler, Parula Northern	648-A
Warbler, Pine	671
Warbler, Prairie	673
Warbler, Prothonotary	637
Warbler, Swainson's	638
Warbler, Worm-eating	639
Warbler, Yellow	652
Warbler, Yellow-throated	663
Waxwing, Cedar	619
Willet	258
Wilsonia canadensis	686
Wilsonia citrina	Hooded Warbler. 684
Woodcock	228
Woodpecker (Flicker)	412-412-A (See Flicker)
Woodpecker, Pileated	405
Woodpecker, Red-bellied	409
Woodpecker, Red-cockaded	395
Woodpecker, Red-headed	406
Woodpecker, Downy	394-C
Woodpecker, Southern Downy	394
Woodpecker, Southern Hairy	393-B
Woodpecker, Yellow-bellied	402
Whip-poor-will	417
Wren, Bewick's	719
Wren, Carolina	718
Wren, House	721
Wren, Long-billed Marsh	725
Wren, Marian's Marsh	725-E
Wren, Winter	722
Yellow-throat, Florida	681-B
Yellow-throat, Maryland	681
Zamelodia ludoviciana	Rose-breasted Grosbeak. 595
Zenaidura macroura	Mourning Dove. 316

INDEX OF COLORED PLATES

	FACING PAGE
BROWN-HEADED NUTHATCH.....	Frontispiece
CABOT'S TERN	9
BLACK SKIMMER	20
BLACK RAIL	60
FLORIDA GALLINULE	66
WILLET	68
PIPING PLOVER	75
OYSTER-CATCHER	80
WILD TURKEY	91
RED-COCKADED WOODPECKER	155
CHUCK-WILL'S-WIDOW	166
SUMMER TANAGER	250
YELLOW-THROATED VIREO	272
SWAINSON'S WARBLER	280

INDEX OF HALF-TONES

	PAGE
Bittern, American (nest and eggs of).....	32
Bittern, American (nest and young of).....	32
Bittern, Least (nest and eggs of).....	34
Bittern, Least (female incubating eggs).....	34
Blackbird, Red-winged (nest and eggs of).....	200
Bluebird (nesting hole of).....	361
Bobwhite (nest and eggs of).....	82
Bunting, Indigo (nest and eggs of).....	246
Cowbird (see blue-winged Warbler) photo.....	284
Crow (nest and eggs of)	194
Dove, Mourning (nest and eggs).....	93
Duck, Black (female brooding eggs).....	21
Duck, Black (nest and eggs).....	21
Duck, Black (old and young).....	21
Duck, Pintail (nest and eggs of).....	24
Eagle, Bald (nest of, in live pine).....	117
Egret (nest and eggs of).....	40
Egret (female brooding young).....	40
Egret, Snowy (female brooding young).....	44
Egret, Snowy (young of the).....	44
Egret, Snowy (nest and three eggs).....	42
Egret, Snowy (nest and three young).....	42
Flicker (nesting cavity of).....	162
Gallinule, Florida (nest and eggs of).....	62
Gnatcatcher, Blue-gray (nest and eggs of).....	349
Goldfinch (nest and eggs of).....	218
Goldfinch (nest and young of).....	218
Grosbeak, Blue (nest of).....	243
Gull, Laughing (nest and eggs).....	2
Hawk, Broad-winged (young three weeks old).....	114
Hawk, Cooper's (young four and a half weeks old).....	108
Hawk, Cooper's (young of the).....	106
Hawk, Marsh (young, 14, 16 and 18 days old).....	102
Hawk, Marsh (young 25 days old).....	102
Hawk, Red-shouldered (nest and eggs of).....	112
Hawk, Red-tailed (nest and eggs of).....	110
Hawk, Sharp-shinned (nest and eggs of).....	104
Hawk, Sparrow (young of—ready to fly).....	122
Hawk, Sparrow (young of—8 days).....	122
Heron, Great Blue (nest and small young).....	37
Heron, Great Blue (nest and large young).....	37
Heron, Green (nest and eggs of).....	46
Heron, Black-crowned Night (nest and eggs of).....	49
Heron, Black-crowned Night (large young).....	49

	PAGE
Heron, Black-crowned Night (nest and young ready to fly).....	49
Jay, Blue (female on nest).....	189
Killdeer (nest and eggs of).....	73
Kingbird (nest and eggs of).....	175
Martin, Purple (nesting box of).....	252
Meadowlark (nest and eggs of).....	202
Nighthawk (nest and eggs of).....	168
Nuthatch, Brown-headed (stub with nesting holes of).....	339
Oriole, Baltimore (young of).....	208
Osprey (nest in dead pine).....	126
Oyster-catcher (nest and eggs of).....	79
Ovenbird (nest and eggs of).....	303
Owl, Barn (young two weeks old).....	130
Owl, Barn (young ten weeks old).....	130
Owl, Great-horned (small young of).....	145
Owl, Great-horned (large young of).....	145
Owl, Long-eared (nest with eggs and young).....	133
Owl, Long-eared (young three weeks old).....	135
Owl, Screech (young four weeks old).....	143
Owl, Short-eared (nest and eggs of).....	136
Owl, Short-eared (nest and young of).....	136
Pewee, Wood (nest and eggs of).....	182
Phoebe (nest and eggs of).....	179
Plover, Wilson's (nest and eggs of).....	76
Rail, Clapper (nest and eggs of).....	55
Rail, King (nest and eggs of).....	53
Rail, Virginia (female brooding eggs).....	58
Rail, Virginia (nest and eggs of).....	58
Robin (female and young of).....	356
Sandpiper, Spotted (nest and eggs of).....	70
Shrike (young on nest).....	266
Skimmer, Black (nest and eggs of).....	17
Sparrow, Chipping (nest and young).....	228
Sparrow, Song (nest and eggs of).....	233
Tern, Common (nest and eggs).....	13
Tern, Common (young of the).....	11
Thrush, Louisiana Water (nest and eggs of).....	306
Thrush, Wood (nest and eggs of).....	352
Towhee (nest and eggs of).....	237
Towhee (young of).....	239

	PAGE
Vireo, Red-eyed (female on nest).....	269
Vireo, White-eyed (nest and eggs of).....	274
Vulture, Turkey (nest and eggs of).....	96
Vulture, Black (nest and eggs of).....	99
Vulture, Black (old bird).....	99
Warbler, Blue-winged (nest and four eggs of, and one of the Cowbird)	284
Warbler, Hooded (nest and eggs of).....	314
Warbler, Kentucky (nest and eggs of).....	308
Warbler, Pine (nest and eggs of).....	298
Warbler, Prairie (nest and eggs of).....	300
Waxwing, Cedar (nest and eggs of).....	263
Woodcock (female brooding eggs).....	65
Woodpecker, Red-bellied (nesting site of).....	160
Wren, Long-billed Marsh (home of the).....	330
Yellow-throat, Maryland (nest and eggs of).....	310

MISCELLANEOUS HALF-TONES

Bunches of Concord Grapes Pecked by Orchard Orioles.....	205
Wingbone of Greater Snow Goose, Healed by Nature.....	358
In the Warblers' Breeding Grounds.....	277
Collecting in a Swamp, Water Knee-Deep.....	89
Blind Used for Photographing Birds.....	141
A Veteran Ornithologist and his Family.....	138
The Author in a Heron Rookery.....	51
An Ornithological Paradise.....	215
An Ornithologist's Camp.....	86

P R E F A C E .

In presenting "The Birds of Virginia" to the public, the author had two objects in view.

Since the days of Audubon and Wilson, many ornithologists have paid short visits to our State, their notes appearing in various magazines and papers from time to time. To date, however, there has never been published any thorough, systematic work on our breeding birds, and feeling the need of such a volume as a check list by the advanced ornithologists of our country, the author commenced this work some six years ago. On the other hand, he has tried to present his accumulation of data in such shape as to be of interest to those who only come in contact with our native birds from time to time, and so stimulate interest along this line. It seems strange that there should be so few bird lovers in our State, considering its size and the great amount of bird life there has always been here. Resident bird students have, however, always been scarce, and little or no interest shown in the welfare of the birds.

This book only treats of those birds which are known to breed within the limits of our State, though many other species winter with us and remain for a short time during their migrations northward and southward, each spring and fall. If my ornithological friends find it of help as a reference, or if in any way it should help to promote interest in the native birds throughout our State, I will feel amply repaid for the time spent upon it.

H. H. B.

NEWPORT NEWS, VA.,

March 15th, 1913.

INTRODUCTORY.

Since moving to Virginia in 1889, I have been actively engaged in bird work some part of each year, with the exception of two (which was then carried on by my father), until the present time, during which period a large amount of specimens, data, and general information has been gathered. From this accumulation I have taken the greater part of the material used in this book. To the American Ornithologists Union Check List, I am indebted for the ranges of our birds; correcting such data where the birds were known to breed or winter within our area, and were not so listed in the "Check List." To the U. S. Department of Agriculture I am indebted for the data on the food of a number of birds, ones I have not had time to make this close study of. To my friends, who have contributed photographs and data, credit for which is given elsewhere in each instance, I again thank. For the benefit of those not familiar with the American Ornithologists Union Check List of North American Birds, I wish to state that the number in brackets preceding the scientific name represents its classified place in that list; while the names in brackets following the vernacular name, i. e., Bluebird, Robin, are the local names by which the different species are known by persons throughout our State. The dates of arrival and departure of migratory breeding birds are average dates; those of the land birds being gathered almost exclusively on the James River Peninsula, while those of the sea birds from the vicinity of Smith's, Cobb's, and Hog islands. The measurements of eggs, which is in hundredths of an inch, as well as the nesting material, height of nest, etc., also is the average, exceptions to all cases of course being found. I have placed in the "Hypothetical List" only such birds as should breed within our State, but which I have been

unable to gain satisfactory evidence of their doing so. Neither have I listed the birds which are now extinct as breeding within our area; of these I shall refer to elsewhere. The half-tones are from photographs taken from nature, by the author and his ornithological friends.

During this long period of field work I have had as a helpmate and advisor, my father, H. B. Bailey, whose knowledge and interest in birds has been the main factor in my advancement along this line.

By turning to the map, one will readily see that I have drawn a line from the southern boundary line to the northern boundary line across our State, and about one hundred and twenty miles from the seacoast at the widest point. This area I have designated Tidewater Virginia, and it lies in longitude $36\frac{1}{2}^{\circ}$ to 38° , latitude $75\frac{1}{2}^{\circ}$ to $77\frac{1}{2}^{\circ}$. The tides in the rivers, however, rise and fall much further inland than this point. Climatic conditions, as well as the flora and altitude, commence to change rapidly from near this line as we go westward, while this seems to be nearly the dividing line between our breeding coastal species and those of higher zones. The islands off our coast and from Cape Henry southward, are mostly low, sandy stretches, the highest point probably not being over twenty-five feet above sea level, while in the middle of many of these islands are low, swampy sloughs and marsh land. On the seaward side one finds high sand dunes and hard beaches, while on the inward side are wide expanses of low marsh, and broad bays and creeks between them and the mainland. From Cape Henry southward, one finds a narrow strip of sandy beach, with marshes, swamp land, and Back Bay between it and the mainland. The altitude of the area on the mainland west of the Chesapeake Bay is probably at no point over one hundred feet above sea level; thus all this area is in the Lower

Austral Zone and Austroriparian fauna. The mean annual temperature of this area is about 59° . Bay, laurel, sumac, pokeberry, black and dew berry, blue and huckle berry, azalea, partridge berries, ferns, wax myrtle, and bay berry are commonly distributed; while the trees are represented by the short- and long-leaf pines, red and white cedar; white, red, and pin, chestnut, post, and Spanish oaks; hickory, black walnut, maples, dogwood, sassafras, black-gum, sycamore, beech, locust, persimmon, yellow poplar or tulip, chinquapin, holly, cypress or Juniper, willow, and live oak. Chestnut trees were formerly quite numerous through the area between the York and James rivers, but the majority have succumbed to the dreaded chestnut blight. The well known magnolia also grows to a large size in the yards and gardens, and we have also the crêpe myrtle and altheas, etc.

Central Virginia, or the territory between the Tidewater line and the Blue Ridge Mountains, lies in the Carolinian fauna, with an altitude of seldom over five hundred feet, and a mean annual temperature of about 55° . The flora of this section does not differ greatly from the Tidewater section, but with such trees as the live oak, black-gum, cypress, and fig, omitted.

The "Valley," between the Blue Ridge and the Shenandoah and Alleghenian ranges, is also in the Carolinian fauna, with an altitude ranging from about 240 feet to about 1,865 feet at the summit in Augusta County, and on up to 2,594 feet at Mount Airy, in Surry County, N. C.

In the mountains we have both the Alleghenian and Canadian fauna, with a mean annual temperature of about 45° , and such trees as the hemlock, yellow poplar, cherry, white oak, spruce and balsam, are found. The beautiful rhododendron is also plentiful in suitable localities.

From the time of the early settlements, our State has always teemed with bird life; but the march of civilization, together with the almost total destruction of many of the species for the millinery trade, the killing and shipment of game birds from the State, and other minor causes have sadly depleted our enormous bird resources; for such they were.

Like the oyster industry, the northern markets have profited principally by the shipment of game out of this State, and one can readily see that if the season's record of two hundred and twenty-five thousand ducks, geese, and swan are killed in this State for many seasons, the feathered tribe will rapidly decrease, not only from our own State, but the whole country as well. Many of the once plentiful breeding species are now extremely scarce, such as the Upland Plover, Oystercatcher, Willet, Snowy Heron, Egret, Least, Gull-billed, Cabots, Caspian, and Royal Terns. The Roseate Tern as a breeding bird is gone from our coast, while such birds as the Passenger Pigeon, Eskimo Curlew, Carolina Parakeet, and numerous other migratory birds are things of the past with us. It is only of late years that, from the protection afforded them in other states, the Wood Duck has become numerous with us once more. Such a bird as this, bringing as it does \$30.00 a pair alive for breeding purposes, should be taken from the game list entirely, as well as the Whistling Swan. The negro is never too lazy to hunt, respecting neither bird, premises, nor law, while his ill-fed, half-starved dogs (the poorer the negro the more dogs he owns) roam the fields and woods at all times, disturbing and breaking up sitting birds and killing the young of both mammals and birds. The forest fires which sweep unchecked each season over a great area of Virginia, destroy many birds and eggs, while our game laws are not

enforced as they should be, owing to no regular game warden system. These, and many other lesser causes, are the main factors in the decrease of birds and game in general throughout our State, and only by following the example of other states and having a practical game and fire warden system, game propagation farm, game preserves or refuges for the local and migratory birds, can we help the fast-approaching extinction of many useful species. The amount of good the majority of our birds do in helping to keep down the ever-increasing agricultural pests can hardly be overestimated, and a realization of this fact is becoming more generally known throughout our country each year. May our State and its people not be backward in realizing this, and help to protect and increase our birds. There is much of interest in connection with the feathered tribe, such as the building of the nests and the material used in their construction, which will afford many hours of enjoyment if one will but spare the time for this side of nature study. The period of incubation is another interesting time for both bird and bird student, while the feeding of the young is in itself the most important period of all. Nearly all young birds are partly or wholly cared for by the parents for a few days or weeks after leaving the nest, to be left at last to shift for themselves and become a help in keeping the laws of Nature. On the other hand, how well Nature helps the birds is illustrated in one instance (see page 358), where the larger bone of a wing was broken and was healed in such a manner as to allow of the northward or southward migration covering probably 1,500 miles, within a short time of fracture. While many birds are destroyed by storms and disease, and old age claims many more, were it not for the hand of man no species could or would become exterminated.

THE BIRDS OF VIRGINIA



PHOTO BY THE AUTHOR.

NEST OF THE LAUGHING GULL OUT ON DRIFT ON MARSH.

FAMILY LARIDÆ.—GULLS AND TERNS.

SUBFAMILY LARINÆ.—GULLS.

GENUS LARUS.

[58]. *Larus atricilla* (Linnæus). *Laughing Gull*.

[Black-headed Gull].

RANGE.—Tropical and temperate coasts. Breeds from Maine (rarely) and Massachusetts (abundantly but locally), south on the Atlantic and Gulf coasts to Texas, the Lesser Antilles and Venezuela; winters from Georgia and the Gulf Coast south to western Mexico, Chile, and Brazil; casual in Colorado, Nebraska, Wisconsin, Ontario, and Iowa.

This beautiful, graceful little gull is probably our most common sea bird. I am glad to say that while many of our other species of water birds are rapidly diminishing in numbers, the Laughing Gull is not only holding its own, but increasing rapidly in numbers. All along our coastal islands, where they formerly bred in detached colonies, they have now become so common that the colonies really become one continuous chain, both on the marshes adjoining the islands, and those between the main chain of islands and the mainland. Our great Chesapeake Bay and its lower tributaries would seem desolate without them; as it is, they remain with us until late in December, by which time numerous species of ducks and the Herring Gulls partly make up for their absence.

They arrive about April 1st, and one's notice is soon called to them by their noisy clamor, as a large flock or a few single birds rest upon some sand bar at low tide. As the season advances the birds desert our harbors and rivers to gather near their nesting grounds, and by June 1st their nesting site is selected, and eggs deposited shortly afterwards. Our earliest record is June 3rd, while fresh eggs may still be found until the middle of July. Two to three eggs constitute a full set, rarely four,—which vary in color from a gray to brown ground,—spotted, blotched and specked with various shades of brown, and fainter markings of lavender. Size, 2.25x1.60. While some birds construct a complete nest, the majority utilize the tide drift caused by the equinoctial storms left high above the ordinary tides, and resting on top of the tall salt marsh grass. This drift is composed of sea weed, marsh grass, and trash of every description, and the birds simply form a slight hollow in it and start housekeeping. A few pair undoubtedly raise two broods, but if unmolested the majority only raise one. As it is, these birds, as well as all the other sea birds breeding on our coast, are systematically robbed daily by the neighboring inhabitants and visiting watermen of all callings. Each colony is visited soon after egg laying commences, and the contents of all nests with more than one egg is destroyed. They are then visited every day or two days, the eggs being gathered in baskets and the egger sure of strictly fresh eggs. Large quantities of the different sea-bird eggs are salted down by the seafaring people for their winter use, and the birds go on laying until they eventually are allowed to raise a brood. Egging stops about July 4th, and the birds are thus allowed ample time to raise a brood before the fall equinoctial storms set in.

SUBFAMILY STERNINÆ.—TERNS.

GENUS GELOCHELIDON.

[63]. *Gelochelidon nilotica* (Linnaeus). Gull-billed
Tern.

[Marsh Tern].

RANGE.—Nearly cosmopolitan. Breeds in North America on the coasts of Texas, Louisiana, North Carolina, Virginia (formerly to New Jersey), and in the Bahamas; wanders casually to Maine and Ohio; winters in southern Mexico, southern Guatemala, and from Brazil south to Patagonia and Chile. Breeds also in Europe, Asia, and Australia, and winters south to northern Africa.

This is now one of our most rare breeding sea-birds, though it was formerly very abundant and bred in large numbers on the coastal islands. There is probably not over a dozen pair now breeding along our entire coast line, where hundreds formerly bred in colonies on Linnen Bar, Wreck, Bone, Cobb's, Pig, and Hog islands. I attribute their decrease to the same causes that annihilated the Least Tern on our coast, the unsportsmanlike spring gunner, and the millinery trade demand for their plumage. The nest location of the few remaining pair has changed from the inner side of the island sand dunes and marsh edges, to the open beach, but now well concealed amongst the oyster shells, rocks, and pebbles, not an unsimilar location from that of the Oystercatcher. This location makes

their nests less easy to find by the eggers, and the chances are about even nowadays that they raise a brood of two or three each season. The nest is a slight hollow scooped out by the birds in the sand, well above the high tides, and amongst the shells, stones, and trash left by the spring equinoctial storms. Two to three eggs constitute a full set, and are deposited about June 16th to July 1st. The birds arrive from the south about April 25th, and depart early in September. The eggs are easily distinguished from other terns by the peculiar texture of the shell, and the grayish- and yellowish-buff ground color. They are profusely marked over the entire surface with blotches, spots, and specks of reddish-brown, with fainter markings of lilac. Size of eggs, 1.80x1.30. They raise but a single brood in a season.

GENUS STERNA.

[64]. *Sterna caspia* (Pallas). *Caspian Tern*.

[Gannet Striker].

RANGE.—Nearly cosmopolitan. Breeds in North America at Great Slave Lake, Klamath Lake, Oregon, on the islands of northern Lake Michigan, on the coast of southern Labrador, and also on coasts of Texas, Louisiana, Mississippi, South Carolina, and Virginia; winters from coast of central California to lower California and western Mexico (Colima), and on South Atlantic and Gulf coasts; casual in migration north to Alaska, James Bay, and Newfoundland.

Like the Least Tern, this handsome large tern is now a rare bird in our territory, although a few pair still breed on one of our coastal islands. It was never thought as common a bird as the Royal Tern, and I do not attribute its decrease in numbers to being shot by the spring gunners, and eggng by local seafaring men, causes so disastrous to some of the following species. The changed conditions of the islands affecting their breeding grounds has had much to do with their leaving our territory for nesting sites elsewhere. They are one of the last sea-birds to lay, fresh eggs being seldom found before the 5th of July. They arrive about the 15th of May and migrate southward the latter part of August. The nest is a slight hollow scooped out by the birds in the sandy beach, well back from the water, in which is deposited two eggs, seldom three. The eggs are easily distinguished from those of the following species, the ground color being a light olive or grayish-buff, while the texture of the shell is much smoother, and the smaller ends much more round than that of the Royal Tern. Over the entire surface the egg is spotted with blackish brown and chestnut, with fainter markings of lilac. Size of eggs, 2.70x1.75. Only one brood a season.

[65]. *Sterna maxima* (Boddaert). *Royal Tern*.

[Gannet Striker].

RANGE.—Tropical coasts north to United States. Breeds in West Indies and on South Atlantic and Gulf coasts north to central Virginia and west to Texas; wanders casually to Massachusetts; not rare in summer

from San Francisco Bay south to western Mexico; winters from Monterey, California, and Gulf of Mexico south to Peru and Brazil, and on west coast of Africa from Gibraltar to Angola.

There is practically no difference made by the local watermen between this and the former species, both being called Gannet Strikers, while the eggs differ so slightly to them, they pay little heed to the Caspians. The Royal Terns are much more numerous, a large colony still breeding on one of our coastal islands. They did, however, for a number of years during the overwhelming destruction of some of the following species for millinery trade, desert our coast entirely, but it has only been within the last few years that they have become established as breeding birds once more. The size of their eggs makes them eagerly sought after by the fishermen, large quantities being put away each season in brine for winter use. Fresh eggs are seldom found before July 1st, and two eggs constitute a full set, which are laid in a hollow in the sandy beach. The ground is a grayish-white, specked and spotted with blackish-brown and fainter markings of lavender. Size of eggs, 2.60x1.70. These birds were rather too large for the ladies' hats, thus they escaped the slaughter accorded their smaller kinsmen during the four years of activity along this line. With ample protection there is no reason why they should not be established as breeding birds on a number of suitable islands off our coast. They do not winter with us, arriving the last week in May, and departing about the middle of September. Only one brood a season.



E. J. Pratt, N.Y.

CABOT'S TERN

[67]. *Sterna sandvicensis acuflavida* (Cabot).
Cabot's Tern.

RANGE.—North and South America. Breeds from Virginia to Florida, Texas, and Mexico; winters from the Bahamas, Florida, and Louisiana to Central America (both coasts), the Greater Antilles, Colombia, and Brazil; accidental in Ontario, Massachusetts, New Jersey, and the Lesser Antilles.

This is an extremely rare bird on our coast, and it was not until the summer of 1912 that a set of two eggs of this species was secured from one of our coastal islands. As there has been a small colony of these birds breeding on the North Carolina coast for the last few years, the birds with us are probably stragglers from that colony. The eggs were laid in a slight depression in the sandy beach, well back from the ordinary high-tide line. They have a bold creamy ground; streaked and blotched with heavy markings of blackish-brown, with lighter shade markings of lavender. Size, 2.12x1.42. They probably arrive and depart with the other large terns, such as the Royal and Caspian. I hope these birds will continue to breed with us, for while they are very common further south, they are a rarity and novelty with us, besides helping to beautify our bays and shores by their presence. They raise but a single brood each season with us.

[69]. *Sterna forsteri* (Nuttall). *Forster's Tern.*

[Big Striker. Big Sea Swallow].

RANGE.—North America. Breeds on interior lakes of California, southern Oregon, and Nevada, and from south-

western Saskatchewan and Manitoba south to northern Colorado, northern Nebraska, northeastern Illinois, and southern Ontario, and on coasts of Texas, Louisiana, and Virginia; winters from southern California, Gulf of Mexico, and South Carolina to southern Guatemala; in migration occurs on the Atlantic Coast, casually as far north as Massachusetts; casual in Brazil.

To the average person there is little difference between this species and the following one, though on their breeding grounds they are easily recognized by the location of the nests. The Forster's Tern always breeds back from the beaches; in, or bordering the marsh; either building a substantial nest in the marsh, or utilizing the drift cast up by the equinoctial storms, or on pieces of boards or lumber out in the marsh. The Common Terns prefer the ocean beach, the closer the better, and make little or no nest compared to that built by the Forster's Tern. In a large series of eggs of both species there is clearly shown that there is so little difference in both size and color of the eggs that they could not with a certainty be identified. They are rather a scarce breeding bird on our coast now compared to former times, for they, like the other terns, were slaughtered by the thousands for the millinery trade. Their graceful flight and rapid movements in search of food, especially if scraps are thrown over from a vessel, can not but interest the onlooker, even though he is not a bird crank. A most pleasing sight is to see a large flock of terns sitting on the sand bar or beach at low tide, their heads drawn down or turned around and partly tucked under the wing coverts, all apparently asleep. The ripples as they wash up under the birds carry some off their feet, throwing them against others, when a general



PHOTO BY THE AUTHOR.

YOUNG OF THE COMMON TERN.

NOTE THE PROTECTIVE COLORATION.

squabble ensues, and in a twinkling away the whole flock sail, apparently all good friends again. They arrive on our coast about April 28th and depart from their breeding grounds about the middle of September, although during mild winters some few remain in Hampton Roads and its immediate vicinity. Three eggs constitute a full setting generally. I know of but a single instance of five eggs being found in a nest, probably laid by two birds. The ground color varies from a light gray to a light brown, spotted, specked, and blotched with dark shades of brown and fainter markings of lilac. The size varies greatly also, the average being 1.80x1.30. Fresh eggs from May 25th to June 15th, though eggs have been found as late as July 6th, the birds though probably having been broken up previously. They rear only one brood a season.

[70]. *Sterna hirundo* (Linnæus). *Common Tern*.

[Big Striker. Big Sea Swallow. Wilson's Tern].

RANGE. — Northern Hemisphere, northern South America, and Africa. Breeds from Great Slave Lake, central Keewatin, and southern Ungava south to southwestern Saskatchewan, northern North Dakota, southern Wisconsin, northern Ohio, and North Carolina; winters from Florida to Brazil; casual in migration on Pacific Coast from British Columbia to Lower California. In Eastern Hemisphere breeds in Europe and Asia, and winters in India and southern Africa.

Fortunately the style of birds in hats about the year 1890 called for small ones, else this species, like the following, would have been driven from our coast before an



PHOTO BY THE AUTHOR.

TYPICAL NESTING SITE OF THE COMMON TERN.

adequate law was passed prohibiting the killing of all gulls and terns for millinery purposes. As it is, we still have several large breeding colonies scattered along our coast, and they seem to be on the increase slowly. They arrive with us about April 25th, and remain after the breeding season until the latter part of October, when large numbers of this species, together with other terns and gulls, frequent our lower rivers, Hampton Roads, and Chesapeake Bay. There is no doubt but that they do a great deal of good gathering in the refuse thrown over from ships, as well as other sea-food, and we should miss them from our waters very much when traveling to and fro on the steamers. Three to four eggs constitute a set, seldom five. The color varies from a dark buffy to grayish ground, spotted, blotched, and specked with dark brown, and fainter markings of lilac. Size of eggs, 1.80x1.30. The eggs are generally placed in a slight hollow on the drift cast up by the high spring tides, and fresh eggs can be found from May 20th until July 7th. Only one brood a season.

[74]. *Sterna antillarum* (Lesson). *Least Tern*.

[Little Striker. Sea Swallow].

RANGE.—Tropical and temperate America. Breeds on coast of southern California and on Gulf Coast from Texas eastward; also northward to Missouri (formerly to Iowa), and northwestern Nebraska; has occurred in Wisconsin and South Dakota; breeds also from the coasts of Massachusetts, Virginia, North Carolina, and Florida south to the Bahamas, West Indies, British Honduras, and

Venezuela; now rare, but formerly abundant in the breeding season from Florida to Maine, wandering to Labrador and Newfoundland; in migration occurs on coasts of Lower California and western Mexico; winters from the Gulf Coast to Venezuela and Peru.

Formerly one of our most abundant of sea-birds, this beautiful little tern is now almost extinct as a breeding bird on our coast. A few pairs do, however, breed near the southern boundary line, and north of us, and I hope before many years they will increase so abundantly at other breeding grounds as to overflow and return to our coastal islands at least. In 1889 these birds were so numerous that a large colony were breeding on the mainland beach, at the entrance of Back River into the Chesapeake Bay. Shortly after this, the slaughter commenced; the birds being shot and skinned for the millinery trade of the large northern cities. During the breeding season on the islands, sometimes three to five hundred birds were shot in a single day. This slaughter went on for a few seasons, the numbers of birds diminishing each year until they disappeared from our shores almost entirely, and the market gunners could not further make a living shooting and skinning these birds at ten cents each, the price paid by the wholesale millinery houses. They are the most dainty and graceful of our sea-birds. The spring migration of those breeding northward, and those formerly breeding with us, occurs about April 26th, while small flocks may be seen in Hampton Roads and Chesapeake Bay as late as the last of October, on their way south for the winter. Two to three eggs are desposited in a slight hollow in the sandy beach, well back from the ocean and concealed well by the surrounding shells, pebbles, and

stones, near which the nest is located. Fresh eggs June 10th to July 1st. Size, 1.25x.95. The ground color is a grayish-white, specked and spotted with dark brown, and fainter markings of lilac. The weather conditions have much to do with the depositing of eggs of this species. Only one brood a season.



PHOTO BY THE AUTHOR.

NEST OF THE BLACK SKIMMER.

FAMILY RYNCHOPIDÆ.—SKIMMERS.

GENUS RYNCHOPS.

[80]. *Rynchops nigra* (Linnæus). *Black Skimmer*.

[Flood Gull. Cut-Water].

RANGE.—Tropical and temperate America. Breeds from Virginia (formerly New Jersey) to the Gulf Coast and Texas; wanders casually north to the Bay of Fundy; winters from the Gulf Coast to Colima, Mexico, and Costa Rica; casual in the West Indies.

Of all the sea-birds nesting on our coast, this species is holding its own and increasing more rapidly than any other species. The apparent reason for this is that they arrive from the south late in the spring, about May 5th, when all the gunning after beach birds is practically finished, and therefore is seldom shot by the gunners for sport, should other birds be scarce. Then again they do not commence laying until the latter part of June, the season being at its height the 5th of July, by which time the taking of sea-birds' eggs, by the surrounding inhabitants for food, is stopped; and all danger of high tides or bad storms is past. They are a graceful bird on the wing, but around the breeding grounds of slow flight, making them easy marks for the gunner, and are of course unfit for food. It is a wonderful sight to stand in the center of the breeding grounds of a large flock of these birds, slight hollows in the sandy beach filled with eggs on every hand, as far as the eye can see them, while overhead and

to one side flap slowly by these queer-looking birds, all the while uttering their mournful note. Another pleasing sight is to watch a number of them skim along the surface of the water, just inside the breakers which roll in from the broad Atlantic, the large lower bill dropped down under the water while the upper bill remains even with the water, thus skimming in its food of small fish or minnows. As we lie awake at night in our boat, clubhouse, or life-saving station bedroom, we can hear these birds passing to and fro from their inland water feeding grounds to their nesting grounds. No nest is constructed; a slight hollow in the sandy beach, back above high tide, is wallowed out by the birds, in which is laid from three to four creamy white eggs, spotted and blotched with heavy markings of dark and light reddish-brown, and chestnut; and lighter markings of lavender. Size, 1.75x1.30. Fresh eggs June 20th to July 10th. Only one brood a season if undisturbed. They leave in the fall migration about September 10th. They do not breed on the coast mainland; islands off the coast north of Cape Charles being their favorite resort for the last fifty years, if not longer.

FAMILY ANATIDÆ.—DUCKS, GEESE, AND SWANS.

SUBFAMILY ANATINÆ.—RIVER DUCKS.

GENUS ANAS.

[132]. *Anas platyrhynchos* (Linnaeus). Mallard.

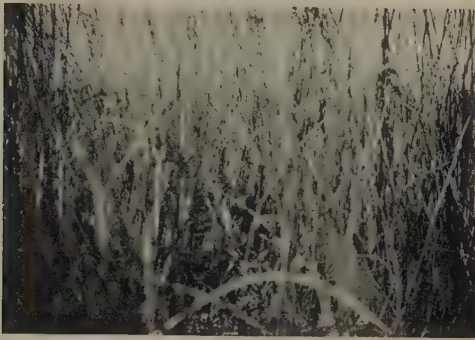
[Gray Mallard].

RANGE.—Northern Hemisphere. In North America breeds from Pribilof Islands, northwestern Alaska, northern MacKenzie, central Keewatin, and Greenland, south to Lower California, southern New Mexico, southern Kansas, central Missouri, southern Indiana, Maryland (rarely), and southeastern Virginia; winters from the Aleutian Islands, central Alaska, central Montana, Wyoming, Nebraska, southern Wisconsin, northern Indiana, Ohio, Maryland, and Nova Scotia (rarely), south to Mexico, the Lesser Antilles, and Panama; casual in Bermuda and Hawaii.

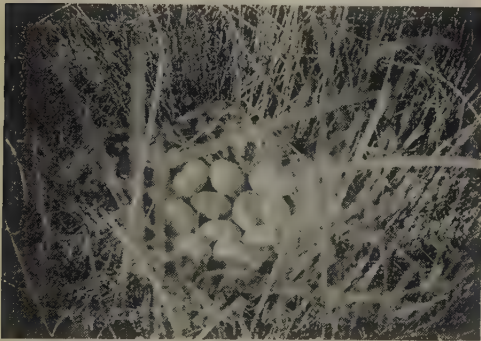
This species, like the following, should have its breeding range extended in the A. O. U. check list southward to Virginia, for it not only breeds readily in captivity both on the Eastern Shore, and on my place at Warwick County, but it breeds sparingly in its wild state in numerous creeks emptying into the upper James River. I would not be surprised if it did not breed also in the upper end of Back Bay, though as yet I have no positive evidence of its doing so. Probably it is the best-known wild duck by the public at large, found abundantly in the markets during the



BLACK SKIMMER



FEMALE BROODING EGGS.



THE NEST.



PHOTOS BY THE AUTHOR.
PARENTS AND YOUNG.

THE BLACK DUCK.

winter season, and now easily recognized by nearly every housewife when in search of game for the table, especially the drake with his brilliant green head. Unless they have been feeding in salt-water marshes too much, they are one of our best table ducks; but unless they are driven out of the marshes into the larger bodies of water by the ice, a case seldom happening with us, they prefer the brackish and fresh-water streams. The fall migration begins the first week in October, and by the 15th the flight is well under way, and birds are numerous with us. The great mass of them move northward through here, the last week of February, a few stragglers remaining until the middle of April sometimes. They are the most easily tamed and reared in captivity of any of the ducks, and if the eggs are taken away as soon as laid, will lay from twenty-one to thirty-five eggs in one season. In the wild state they lay but from seven to ten eggs, a rich olive green. Size, 2.25x1.25. Like most of the ducks the young can not fly until about half grown, in which stage they are called "flappers," though they take to the water as soon as hatched. The nest is not far distant from the water, or placed in the tall flags in the marsh, a saucer-shaped depression, lined with feathers and down. Fresh eggs about April 10th to 15th, though old birds in captivity commence the latter part of February or first of March, according to the weather. They rear but one brood a season in the wild state.

[133]. *Anas rubripes* (Brewster). *Black Duck*.

[Black Mallard. Dusky Duck].

RANGE.—Eastern North America. Breeds from central Keewatin and northern Ungava south to northern Wis-

consin, northern Indiana, and southeastern Virginia; winters from Nova Scotia south to southern Louisiana and Colorado; west in migration to Nebraska and central Kansas; casual in Bermuda; accidental in Jamaica.

The A. O. U. check list for 1910 only gives the southern breeding range of this species as southern Maryland. This, however, is not correct, for the Black Duck has been for years a breeder on our coastal islands, more so of former years than now. It still breeds sparingly over there, while it breeds in Warwick County (1911), and outside Tidewater in a number of the fresh-water creeks emptying into the upper James River. It is also a common breeder in captivity, both on Chincoteague Island, and my pens in Warwick County. It was interesting to note, though, that wild, unclipped wing birds that remain with my birds all during the winter in the pen, even though the pond was frozen over for eight weeks (1912), migrated the last week in March with some Pintail. They are a bird that is shy and wary, do not become entirely tame, or take kindly to confinement, though they breed so fairly well. The eggs are laid the last part of April and first week in May, from six to ten in number, a pale buff. Size, 2.30x1.70. The nest is composed of weed stems or flag blades and down, placed close to the water, and on the ground, well hidden by vegetation. The eggs take from twenty-six to twenty-eight days to hatch, and the young as soon as dry may be seen following the parents in search of food. Of all the so-called table or fresh-water ducks, this species is found as much in the salt-water creeks and marshes along our coast, as further inland. It is still a very plentiful bird, and brings from 75c. to \$2.00 a pair in the markets. The southward migration commences about the 5th of October, while the northward flight is in full swing by the last week in March. Only one brood a season.



PHOTO BY A. O. TREGANZA.

NEST AND NINE EGGS OF THE PINTAIL DUCK.

INTRODUCED BREEDER.

GENUS DAFILA.

[143]. *Dafila acuta* (Linnæus). Pintail.

[Sprig-Tail. Sprig].

RANGE.—Northern Hemisphere. In North America breeds on the Arctic Coast from Alaska to Keewatin and south to southern California, southern Colorado, northern Nebraska, northern Iowa, and northern Illinois; winters from southern British Columbia, Nevada, Arizona, southern Missouri, southern Wisconsin, southern Ohio, Pennsylvania (rarely), and Delaware south to Porto Rico and Panama, and in Hawaii; in migration occasional on the Atlantic Coast to northern Ungava, Greenland, and Newfoundland, and in Bermuda.

This abundant winter duck is not a regular breeder in its wild state in our area, the fall migration taking place the first part of October, while the northward or spring migration commences the middle of March. During the winter months, however, it is one of the most plentiful of the fresh-water ducks, selling in the Norfolk market for as low as 60c. a pair. It is truly a fresh-water duck, the upper rivers and inland ponds, Back Bay, and Currituck Sound being its preference for feeding grounds, though a few occasionally are seen in the lower salt-water rivers and bays. It takes kindly to captivity, and birds were laying in my breeding yard within six weeks after arrival, notwithstanding they had come from far-distant

Kansas and arrived in poor condition. They did not, however, lay a full clutch or set. The nest is a well-concealed affair of grasses and down, placed in a slight hollow in the ground. Fresh eggs May 20th; six to ten in number, a dark gray color. Size, 2.20x1.50. Only one brood a season.

GENUS AIX.

[144]. *Aix sponsa* (Linnaeus). *Wood Duck*.

[Summer Duck].

RANGE.—Temperate North America. Breeds from southern British Columbia, central Saskatchewan, northern Ontario, New Brunswick, and Nova Scotia south to central California, southern Texas, Florida, and Cuba; winters chiefly in the United States from southern British Columbia, Kansas, Illinois, Indiana, Pennsylvania, and New Jersey south to southern California and the Gulf of Mexico; accidental in Bermuda, Mexico, Jamaica, and Europe.

This bird, the most beautiful of all the waterfowl breeding within our limits, is fast becoming killed out by the early shooting in the fall, and the timber being cut off, both in the progress of cleaning up the farm lands, and the timber craze which has gone over our Tidewater section within the last ten years or so. The opening of the season, September 15th, is far too early to shoot these birds as game, while the plumage of the male, at least, should shame any one from killing and plucking another to eat, if from no other reason. Even in their wild state

they are rather tame birds and are an easy mark for the gunner,—while to shoot them for their meat is hardly worth while,—the body when dressed not making much more than a meal for a half-grown person. Their queer ways of whistling and bobbing their heads, and their beautiful plumage and brilliant red eyes, make them a favorite in captivity, and much sought after by public parks and private estate of monied men. During mild winters many remain with us, though the majority migrate southward in November and return northward in February. The eggs are laid in a hollow of a tree not far from a fresh-water river, pond or swamp, usually from ten to thirty feet up. From seven to fourteen eggs are laid, the nesting material being of coarse grasses and weeds, lined with feathers. The eggs are buffy white, and measure 2.05x1.50, and are deposited about April 10th, while young may be seen during the latter part of May following the parent birds in search of food. They take kindly to captivity and nest and rear young as easily as any other species of domesticated wild fowl. I hope an early date will see the species taken from off the so-called list of "Game Birds." They raise but a single brood in a season.

INTRODUCED BREEDER.**SUBFAMILY ANSERINÆ.—GEESE.****GENUS BRANTA.**

[172]. *Branta canadensis canadensis*. (*Canada Goose*).

[Wild Goose. Honker. Nigger Goose].

RANGE.—North America. Breeds from limits of trees in valley of Lower Yukon, northwestern Mackenzie and central Keewatin south to southern Oregon, northern Colorado, Nebraska, and Indiana; formerly bred casually south to New Mexico, Kansas, Tennessee, and Massachusetts; winters from southern British Columbia, southern Colorado, southern Wisconsin, southern Illinois, and New Jersey (rarely southern Ontario and Newfoundland) south to southern California, Texas, and Florida; accidental in Bermuda and Jamaica.

I include this bird amongst our breeders for the reason that it breeds very commonly all along our coast region. Of course it was originally bred in confinement, but a few generations have produced geese that build their nests in almost natural haunts, feeding and rearing their young in the open salt waters and returning, even after mingling with their wild cousins, to their owner and their artificial feeding of corn. Birds raised at a place seldom join the migrating flocks, though the call of the wild is often a temptation as they see their brethren passing over, but, aside from a great honking and flapping of wings, few leave. Every gun club, and nearly every market gunner,

now has his pen of decoy Canadas, and I suppose it is safe to say that seven-eighths of the geese shot are through the means of these tame birds. Though birds may pair off the second year of age, the female will not as a rule lay until the third season. They remain mated for life, if not broken up, and some attain the ripe old age of twenty years. Probably the most successful breeder of these birds in the world is Mr. J. W. Whealton, of Chincoteague Island, this State, who has been breeding these birds for over twenty-five years, and raises them in large numbers, some seasons as many as four hundred young being raised to maturity. His geese, on reaching the age of full plumage, are allowed to feed out in the bay at large, and he seldom loses any. The wild birds commence to arrive about the middle of October, and are common on all our large rivers and bays; Back Bay and Currituck Sound being their ideal feeding grounds. They migrate northward in the spring about the middle of March, the loud honking readily attracting one's notice to the flock overhead, flying in the shape of a wedge or "V." The nests are well-made structures of weeds, stems and grasses, trash and other handy material, lined with feathers and down. The eggs are a light buff color, and number from four to six, five being the average. Size, 3.50x2.50. In confinement they lay in March and early April, but in their wild state they breed in May and June. Only one brood a season.

INTRODUCED BREEDER.

SUBFAMILY CYGNINÆ.—SWANS.

GENUS OLOR.

[180]. *Olor columbianus* (Ord.). Whistling Swan.

[Wild Swan].

RANGE.—North America. Breeds from northern Alaska south to Becharof Lake, Alaska Peninsula, and on Arctic islands from about latitude 74° south to northern Mackenzie and northwestern Hudson Bay; in migration occurs west to Behring Island; winters on the Pacific Coast from southern British Columbia, rarely south to southern California, and in the interior from Lake Erie and southern Illinois to coasts of Louisiana and Texas, and on Atlantic Coast from Delaware and Maryland to South Carolina, rarely north to Massachusetts and south to Florida; casual in northern Mexico; accidental in Scotland and Bermuda.

This beautiful and graceful bird is included in our list as a breeder in captivity, its natural breeding grounds being in the extreme northern latitude. It is however a very common bird during the winter months in Chesapeake and Back Bays, and Currituck Sound; where many are killed by the market gunners and shipped into Norfolk market. It is surprising how little demand there is for them as food, for, if people really only knew it, a fat young bird is the finest of game; the flavor not unlike venison, while the breast meat will average as much as that of two geese. Notwithstanding all this they sell for the

ridiculously low price of from one dollar to a dollar and a half each. I will admit though that an old bird is the toughest proposition teeth ever tackled, but one can soon learn to pick out a young bird by the dark purplish hue of the feathers on the neck and back. Nearly all the gunning clubs along the lower coast have one or two for decoys, where a few pairs have been known to breed in captivity. During a tramp down the coast in 1908, inspecting the live decoys and breeding methods used by the various gun clubs, I was told by a keeper at one club of a female swan and tame white gander having mated, the offspring resembling the swan more than the goose. These birds I did not personally see,—the statement as told me I leave in the hands of my readers,—though I hope to verify this statement shortly. The birds arrive at their winter feeding grounds the latter part of October, and depart northward about the middle of March, these dates being judged by specimens seen. In confinement, as in their wild state, they only raise one brood, the eggs numbering from four to five. The nest is rather a bulky affair of sticks, moss, grass, and rubbish, lined with feathers, and placed on the ground not far from the water. Size of eggs, 4.00x2.75. The above data was taken from a set of eggs in my collection taken June 5, 1882, on the Yukon Delta by a friend. The above data will apply as well to birds in captivity, though the breeding date is possibly somewhat earlier on account of our warm climate. It seems a pity they should be shot, and I would dearly love to see them taken off the game list, for they are becoming less plentiful each year.



NEST AND EGGS.

PHOTO BY V. BURTCH.



LOOKING FOR FOOD.

PHOTO BY C. F. STONE.

BITTERN.

FAMILY ARDEIDÆ.—HERONS, BITTERN.

SUBFAMILY BOTAURINÆ.—BITTERN.

GENUS BOTAURUS.

[190]. *Botaurus lentiginosus* (Montagu). *Bittern*.

RANGE.—North America. Breeds from central British Columbia, southern Mackenzie, central Keewatin, southern Ungava and Newfoundland south to southern California, northern Arizona, Kansas, the Ohio Valley, and North Carolina, and less frequently in southern United States; winters from California, Arizona, southern Texas, the Ohio Valley, and Virginia south to Cuba and Guatemala, and casually to the Bahamas, Porto Rico, Jamaica, and Great Britain.

This bird, as well as the following species, is almost unknown to the majority of people, other than bird students, or the so-called "Bird Cranks." Inhabiting the marshes as it does, seldom rising unless flushed by man or dog, and migrating by night, few there are to see it. It is, though, a much larger bird than the Least Bittern, and its habits are not quite so seclusive as that species, and it flushes more easily when disturbed during its feeding. If one should creep quietly through the underbrush bordering some sluggish stream, or quiet pond overhung with bushes, and keep quiet for some time, they might easily expect to see a Bittern cautiously skulking along the shore line searching for food, or in their most characteristic attitude, motionless, with head and neck drawn down as if the head and shoulders were closely connected. While



NEST AND EGGS.

PHOTOS BY O. E. BAYNARD.
FEMALE INCUBATING.

THE LEAST BITTERN.

they may be found in both salt- and fresh-water marshes, they seem to have a preference for the latter, and in the long marsh grass, rushes, or on some tussock out in the pond, may be found their nest. The nest is a loosely made platform of grasses or rushes, placed on the ground near the marsh, or more often just a trampled-down mass of dry vegetation out in the marsh or pond proper. On this are laid those unmistakable glossy olive-drab eggs, three to five in number, measuring 1.95x1.50. Fresh eggs May 5th to 15th. Only one brood a season. Favorable seasons some few remain through the winter with us, but the majority reach us about April 10th.

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GENUS IXOBRYCHUS.

[191]. *Ixobrychus exilis* (Gmelin). *Least Bittern*.

RANGE.—Temperate North America and northern South America. Breeds from southern Oregon, southern Saskatchewan, southern Manitoba, southern Quebec, and Nova Scotia south to the West Indies and Brazil; winters from Florida and the Gulf of Mexico southward.

This shy, retiring bird is probably never seen by any person other than an ornithologist or oologist out in quest of specimens. Although it is a bird of the marshes, it is rather doubtful if the average gunner in this section out after snipe, rails, or ducks, flushes one or knows what it is. It inhabits the upper brackish marshes and fresh-water sloughs and ponds, while Back Bay, Princess Anne County, is a very favorable locality for nesting sites and feeding grounds. It does not winter with us, arriving about the middle of April. Unlike their comrades of the

marsh, the rails, they do not run for protection, but trust to the color of their plumage and motionless attitude, which blends entirely with the surrounding vegetation. One can almost step on these birds before they will flush. Small ponds in the islands off our coast also form an attractive home ground for them during the breeding time. The nest is a well-constructed platform of dry marsh grasses and stems, or rushes; fastened to the upright blades of marsh grass or rushes, from six inches to a foot above the marsh or water. The eggs number from four to five, a light, pale greenish-white. Size, 1.20x.90. Fresh eggs June 5th to 10th. Only one brood a season.



EIGHT DAYS OLD.



PHOTOS BY THE AUTHOR.
TWO-THIRDS GROWN.

YOUNG OF THE GREAT BLUE HERON.

SUBFAMILY ARDEINÆ.—HERONS AND EGRETS.

GENUS ARDEA.

[194]. *Ardea herodias herodias* (Linnæus).*Great Blue Heron.*

[Big Blue Crane. Cranky].

RANGE.—Western Hemisphere. Breeds from southwestern British Columbia, central Alberta, central Manitoba, northern Ontario, and Prince Edward Island south to southern Lower California and Isabella Island, Mexico, northern Texas, and South Atlantic States (except parts of Florida); winters from Oregon, the Ohio Valley, and Middle States south to the West Indies, Panama, and Venezuela.

This large heron, commonly called "crane," is an abundant species with us in the Tidewater area. A few pair remain through the winter, but the majority move further south the latter part of December, and return about the middle of March. They are one of the most familiar and easily recognized birds along our bays, rivers, creeks, and water courses; while a solitary bird standing motionless on the edge of the river, up to his thighs in water, neck outstretched, ready to spear a soft crab or minnow with the long sharp beak, is a sight well worth watching. Another interesting sight is to watch a large flock returning from their feeding grounds to the rookery, easily identified at a great distance by their large expanse

of wing and slow wing beats, neck stretched out to about half its length, and long legs stuck straight out behind, reaching well beyond the tail. They follow one behind the other, separating and sailing in as they near the tree in which their nest is located, and as they are about to alight, the long, ungainly legs are drawn forward and downward, the feet often missing the branch on which they intended to alight, when after another most awkward attempt they generally succeed. They seldom land directly on their nest, alighting nearby and walking up and on to it. This practice during the time the young are on the nest is a most unsatisfactory method for the young; each trying to reach the old bird first, they start to climb from the nest awkwardly toward the parent, often resulting in their being precipitated to the ground below, where they are devoured by crows, buzzards, racoons, or opossums, all of which are attracted and make their habitat near a rookery. Large rookeries of these birds formerly were found on some of the islands off the coast, but the cutting of the live timber and destruction of the old dead trees by fire and the elements, as well as gunners disturbing them during the spring migration of beach birds, has driven them to the mainland to safer retreats. The nests are quite large, bulky platforms of dead sticks and twigs, placed as high up as possible and often near the extremity of the limb when live trees are used. The eggs number from three to five, greenish-blue. Size, 2.45x1.45. On account of their nests being robbed by crows, and young destroyed by various causes, fresh eggs may be found in rookeries from April 20th until June 15th. Their food consists of small fish and minnows, shrimp, soft crabs, eels, and other marine life.



NEST AND EGGS.



PHOTOS BY O. E. BAYNARD.

AT HOME.

THE EGRET.

GENUS HERODIAS.

[196]. *Herodias egretta* (Gmelin). *Egret*.

[White Crane].

RANGE.—Temperate and tropical America. Breeds in Oregon and California, and from Virginia, Florida, the Gulf Coast, and Mexico south to Patagonia; formerly bred north to New Jersey and Wisconsin; winters from the Gulf of Mexico southward; casual in Manitoba, Quebec, New England, and Nova Scotia.

There are a few of these birds still breeding within our area; formerly they were quite common with us. The demand for their plumes for the millinery trade undoubtedly was the main cause of their decline, like that of numerous species noted heretofore. There are still some found in the Chickahominy region, many working down the James River during August and September in search of food.

*In the coast region they nest out on the marsh, building their nests above the reach of high tides, of dry marsh grass, stems and fine sticks. Three to four eggs form a complete set, May 15th to June 1st; light bluish-green color. Size, 2.30x1.45. Elsewhere they usually nest in trees like the other Herons. In the year 1911, during a visit to the Eastern Shore, I heard of a man having shot some and eating them, and it is only a question of a short time before these birds of the coast region will entirely disappear, though those further inland are still quite safe. They arrive about April 15th and migrate southward early in September.

*NOTE.—This was the species referred to as the "Snowy Heron," seen by Captain Crumb, Rives' Catalogue of the Birds of the Virginias, page 50, No. 65.



NEST AND EGGS.



PHOTOS BY O. E. BAYNARD.

YOUNG, FIVE DAYS OLD.

SNOWY EGRET.

GENUS EGRETТА.

[197]. *Egretta candidissima-candidissima* (Gmelin).
Snowy Egret.

RANGE.—Temperate and tropical America. Formerly bred from Oregon, Nebraska, Indiana, Illinois, and New Jersey south to Chile and Argentina; now breeds locally in the United States from southeastern Virginia and North Carolina to Louisiana; winters from Florida southward; casual in British Columbia, Ontario, Massachusetts, and Nova Scotia.

This species still breeds sparingly in our area in the Chickahominy Swamps and I am quite sure it still breeds in the Back Bay tributaries also. It formerly was quite an abundant breeder, but like other species noted, it gave way before the demand for millinery purposes, until now they are one of our rarest birds. These are the birds most noted for their egret or osprey feathers worn on women's hats, the demand for which nearly exterminated them. The nest is a frail platform of dry sticks in a low tree in swamp, or on an island in a river; a few pair generally breeding with the colonies of Louisiana and Little Blue Herons. The nest is seldom more than thirty feet above ground or water. The eggs usually number from three to four, a light bluish-green. Size, 1.80x1.20. Only one brood a season. They arrive and depart about the same time as the Egret. Unless very stringent laws, with wardens to enforce them, are passed, this species will soon pass from our list of breeding birds forever.



PHOTOS BY O. E. BAYNARD.

THE SNOWY EGRET AT HOME.

GENUS FLORIDA.

[200]. *Florida cærulea* (Linnæus). *Little Blue Heron*.

[Little Blue Crane].

RANGE.—North and South America. Formerly bred from Missouri, Indiana, Illinois, and New Jersey to western Mexico and south to Argentina and Peru; in the United States now breeds locally in the Gulf Coast north to Virginia (James River tributaries); wanders casually to Nebraska, Wisconsin, Ontario, New England, and Nova Scotia; winters from South Carolina southward.

These birds do not winter with us, arriving about April 10th. While I have as yet no actual knowledge of these birds now breeding on our coast, they do, however, nest in the swamps and creeks near Jamestown and in Chickahominy region in large rookeries; and the young birds work down the James River in the early fall to within a few miles of Newport News. They probably also nest in the swamps bordering Back Bay. I have had numerous young in their white plumage in my pond every year, while the creeks further up the river are dotted with them during low tide. Their nests and habits are almost identical with the following species, while their eggs can not be distinguished with a certainty from those of the Green Heron except in measurement, which is a trifle smaller. Eggs three to four in number, a pale bluish-green. Size, 1.65x1.30. Fresh eggs May 1st. Only one brood a season. In 1875 my father found them breeding abundantly on Mock Horn Island, but they have been driven from that section, as was the Great Blue Heron.



PHOTO BY THE AUTHOR.

NEST OF THE GREEN HERON.

GENUS BUTORIDES.

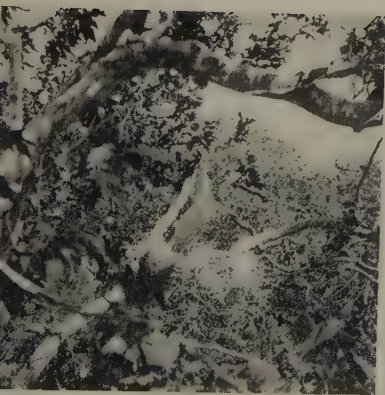
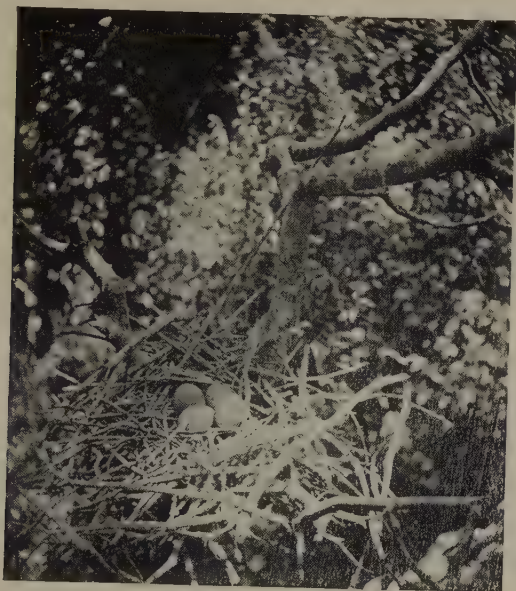
[201]. *Butorides virescens virescens* (Linnæus).
Green Heron.

[Scow. Fly-Up-the-Creek. Little Crane. Scout].

RANGE.—Eastern North America. Breeds from southern South Dakota, northern Wisconsin, southern Ontario, southern Quebec, and Nova Scotia south to the West Indies; winters from Florida and the West Indies southward, and rarely in southeastern United States; casual in Colorado.

This heron, commonly called "Scow," remains through the milder winters with us, and during the breeding season every small marsh, pond, or brackish stream, affords a fishing preserve for one or more pair. On the islands along the coast they are still quite numerous, though not as much so as formerly, when the cedars, scrub pines and other foliage afforded abundant nesting sites, and large colonies were common. There are probably more eggs of this species, and the Great Blue Heron, destroyed by crows, both Common and Fish Crows, than are hatched by the birds themselves. I have been on the ground underneath these rookeries when the eggshells of these birds, dropped by the crows after sucking the contents, literally made the ground look blue. The nest is a well constructed saucer-shaped platform of small sticks and twigs, and although the eggs can generally be seen through the nest from below, the construction is such that it holds its contents during the severe wind and thunder storms that sweep the rookeries generally when the breeding season is at its height. While the birds and eggs are sometimes eaten by

the watermen along the coast, still it is not considered game by many. The eggs number four to six, a rich greenish-blue, and measure 1.48x1.12. The height at which the nest is placed varies considerably. I have found nests in low bushes overhanging the water, only three feet up, while nests placed in pine trees, as well as in cedars in rookeries, have been thirty-five to forty feet up. Occasionally more than one brood is reared a season. The young are most awkward when walking around the limbs surrounding the nest, a habit resorted to after being about half grown, resulting often in death by falling to the ground below or becoming entangled in the foliage or vegetation, from which they are unable to extricate themselves. Fresh eggs may be found from April 22nd to May 15th.



PHOTOS BY THE AUTHOR.

READY TO LEAVE.



PHOTO BY W. O. EMERSON.

ABOUT TEN DAYS OLD.

NEST AND YOUNG OF THE NIGHT HERON.

GENUS NYCTICORAX.

[202]. *Nycticorax nycticorax naevius* (Boddaert).
Black-crowned Night Heron.

[Night Crane. Night Squawk].

RANGE.—North and South America. Breeds from northern Oregon, southern Wyoming, southern Manitoba, northern Quebec, and Nova Scotia south to Patagonia; winters from northern California and Gulf States southward; casual in winter north to Massachusetts and southern Illinois.

This bird breeds on the mainland of the Eastern Shore (Cape Charles Peninsula), and in the Chickahominy swamps, also in the swamps bordering Back Bay. Residents of the country bordering water are familiar with them by their loud "squawk," as they pass overhead about twilight, bound from one feeding ground to another. They nest in quite large colonies as do the other herons found within our limits, sometimes as many as a dozen nests being found in one tree. By the time the young are full grown the rookery takes on a whitish appearance from the excrement found on every limb, bush and shrub, while the ground is likewise covered and gives forth a sickly odor from the dead young, rotten eggs, etc., scattered all over. Should one climb a tree in which happened to be nests with young, he is soon beating a hasty retreat from the rapid fire of unsavory smelling fish disgorged by the young. This practice is resorted to for protection by the other species of herons as well. The nest is a well made



PHOTO BY W. O. EMERSON.

THE AUTHOR IN A HERON ROOKERY.

saucer-shaped platform of small sticks and twigs, from ten to fifty feet from the ground. The eggs number from three to five, a pale green color, and measure 2.00x1.40. Fresh eggs April 10th to 20th. Only one brood a season. Some years these birds do not spend the winter with us, arriving the later part of March or first of April, and departing the end of October. Other mild winters find them with us in numbers. This season (1913) I found them very abundant in Princess Anne County during all the winter months. When their supply of food; minnows, small fish and other marine life, is frozen up, they migrate southward at once, returning as soon as the weather breaks.



PHOTO BY THE AUTHOR.

NEST OF THE KING RAIL.

FAMILY RALLIDÆ.—RAILS, GALLINULES,
AND COOTS.

SUBFAMILY RALLINÆ.—RAILS.

GENUS RALLUS.

[208]. *Rallus elegans* (Audubon). *King Rail*.

[Marsh Hen. King Sora].

RANGE.—Eastern North America. Breeds from Nebraska, southern Minnesota, Ontario, New York, and Connecticut south to Texas, Florida, and Cuba; winters mainly in the southern part of its breeding range; casual north to South Dakota and Maine.

This handsome large rail is not a common breeding bird over Tidewater Virginia, though I have taken two sets of eggs each year for the last two seasons, from a pair of birds breeding in one of my ponds on my place in Warwick County. This is the only positive record I have of their breeding within our area, though I see no reason why they should not be found in the marshes adjoining Back Bay, which is virtually fresh water. The birds breeding with me became quite tame, allowing me to approach within five feet of them when brooding eggs. The nests were placed in a thick bunch of swamp grass growing in the pond, about two feet above the water. They were made of dry marsh grass, a slightly hollow platform well packed, and contained nine and eleven eggs respectively the first settings, and six and seven eggs the second. They did not move over twenty-five feet after



PHOTO BY THE AUTHOR.

NEST OF THE CLAPPER RAIL.

CANOPY REMOVED.

being broken up the first time, and about one hundred feet the second time, the third laying being allowed to hatch. The young were jet black, and all remained in the near vicinity until the fall high tides, when they migrated with the other rail, principally Virginia and Sorā. These fall tides occur about September 15th to October 10th, during which times many King Rail, as well as other species, are killed further up the rivers. The eggs have a glossy rich cream ground color, blotched and specked with reddish-brown, with fainter markings of lilac. Size, 1.60x1.20. Fresh eggs, May 20th to June 1st. Only one brood a season. Their food consists of insects, seed, and various forms of marine life gathered from the edges of the ponds and streams.

[211]. *Rallus crepitans crepitans* (Gmelin).
Clapper Rail.

[Mud Hen. Sage Hen].

RANGE.—Salt marshes of the Atlantic Coast. Breeds from Connecticut to North Carolina; winters mainly south of New Jersey; casual north to Maine.

This is the largest of the rails breeding with us, and during mild winters many remain through the year. As spring approaches they become more fearless and inhabit small marshy places often within a hundred feet of inhabited buildings, from which they utter their harsh "ghak, ghak," making their presence readily known. During the breeding season numerous pairs of these birds are scattered over every salt marsh, and during early morning and late evening hours, their long harsh cries,

one answering the other, so it seems, keep the marsh vibrating with sound. As they run so rapidly from place to place, one is led to believe there are many more birds in the marsh than there really are. On the islands off the coast they are very numerous, and their method of nest building is entirely different from that on the mainland west of the Chesapeake Bay. The spring equinoctial storm leaves large masses of drift, such as seaweed, dry marsh grass, and trash of every description, along the inland shore of the coastal islands, supported above the ground about eight inches by the thicker stems of marsh grasses. Under these masses of trash the Clapper Rails build their nests, the trash above forming the canopy for which the birds are so noted. The nests in the marshes on the mainland are chiefly placed in some thick bunch of marsh grass or flags, and attached thereto, from six to ten inches above the marsh and canopied over with the surrounding vegetation. During the late fall and early spring, numbers of these birds are caught in the steel traps set for mammals in and along the creeks and water courses. The eggs number from eight to thirteen, the ground color a rich glossy buff, specked and blotched with different shades of reddish-brown, and fainter markings of lavender or gray. Fresh eggs April 27th to June 1st. Size, 1.70x1.20. The nest is composed of dry marsh grasses and stems, a well built platform, slightly hollowed. Numbers of these birds with the Virginia, Black, and Sora Rails, are shot during the Sora tides, the latter part of September each year. The young are jet black when hatched and leave the nest to follow the parent as soon as dry. Two settings are laid by many birds. Second sets of fresh eggs July 1st. Seeds and marine insect matter form the greater part of their food.



AT HOME.



PHOTOS BY V. BURTCH.

AFTER LEAVING.

THE VIRGINIA RAIL.

[212]. *Rallus virginianus* (Linnæus). *Virginia Rail*.

RANGE.—North America. Breeds from British Columbia, southern Saskatchewan, southern Keewatin, Ontario, southern Quebec, and New Brunswick south to southern California, Utah, Kansas, Missouri, Illinois, New Jersey, and eastern North Carolina, and in Toluca Valley, Mexico; winters from Oregon, Utah and Colorado to lower California and Guatemala, also in the lower Mississippi states, and from North Carolina (casually Massachusetts) to Florida; occurs casually north to northern Quebec and Newfoundland.

This species of rail with the Sora, and a few of the Black Rail, are taken quite abundantly during the fall high tides. During these times the waters rise above the tops of the majority of marsh grass in the small rivers and creeks, and the birds are driven from their safe retreat on the ground below, to the tallest of the marsh grass stems, here to be shot by the gunners pushed over the marsh in a light draft punt or skiff. The Virginia Rail is, however, not as abundant as the Sora during these periods, the proportion being about twenty to one. They breed in suitable localities throughout Tidewater, while further inland they are very abundant in the brackish marshes at the heads of the creeks emptying into the James. The waters of Back Bay and its tributaries is an ideal breeding section for it. Mild winters a few remain with us, but the majority migrate further south in October and November, arriving with us in the spring, the middle of April. The nest is placed in or near the water, six to ten inches up, a well built platform of dry marsh grasses and stems, canopied over and concealed by

the surrounding tall vegetation. The eggs number from eight to twelve, the ground color a glossy creamish-white, specked with reddish-brown, and with fainter markings of lavender, more profusely on the larger end. Size of eggs, 1.25x.90. Fresh eggs may be found from May 20th till June 5th. Probably only one brood a season. Their food is similar to the other members of the family: seeds, worms, beetles, snails, and other insect matter, being freely eaten.

GENUS CRECISCUS.

[216]. *Creciscus jamaicensis* (Gmelin). *Black Rail*.

RANGE.—Eastern North America. Breeds from southern Ontario and Massachusetts south to Kansas, Illinois, and South Carolina; winters from Texas east through the Gulf States and south to Jamaica and Guatemala; casual in Bermuda.

During the fall equinoctial storms when the extra high tides are caused by the water being backed up the James River, a few of these birds are shot on the marshes by the gunners after Sora. It was not until the season of 1911 that I had positive evidence of their breeding within our area, but on June 16th my father took an incomplete set in Northampton County, thus establishing a record for the State. The bird reminded him more of the common marsh or Norway rat (*Epinys Norvegicus*) by the way it ran and skulked among the tall marsh grass. The nest is placed near a fresh-water marsh, on the ground, and composed of fine blades of flags and wide strips of marsh grasses, lined with fine strips and grasses. The eggs



BLACK RAIL

number six to nine, a glossy light cream ground color, profusely specked over the entire surface with reddish-brown, and under markings of faint lavender. Size, 1.06x.65. Probably only one brood is raised a season. Fresh eggs June 12th. They arrive the latter part of April from the south, and migrate southward the latter part of September and first part of October. Their food is similar to the other members of the family.

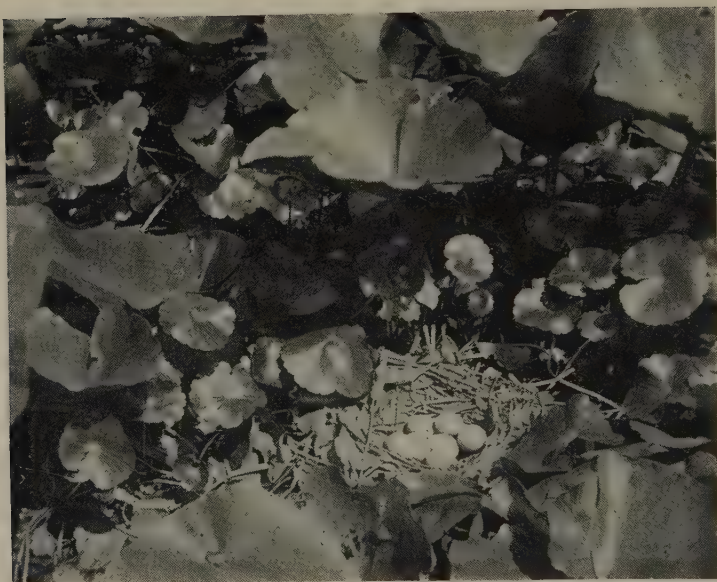


PHOTO BY O. E. BAYNARD.

NEST AND EGGS OF THE FLORIDA GALLINULE.

SUBFAMILY GALLINULINÆ.

GENUS GALLINULA.

[219]. *Gallinula galeata* (Lichtenstein). Florida
Gallinule.

[Marsh Pullet].

RANGE.—Tropical and temperate America. Breeds from central California, Arizona, Nebraska, Minnesota, Ontario, New York, and Vermont south through the West Indies and Mexico to Chile and Argentina, and in the Galapagos and Bermuda; winters from southern California, Arizona, Texas, and Georgia southward; casual in Colorado, Quebec, Nova Scotia, New Brunswick, and Maine.

Although we were quite sure the Florida Gallinule bred within our limits, it was not until the season of 1911 that my father actually took a set of eggs and identified the bird. The record set was found on the margin of a small brackish pond in the interior of Hog Island, Northampton County, June 17th. Incubation was far advanced; four eggs from the setting of nine were all that were saved. Undoubtedly they breed extensively along the shores and at the upper end of Back Bay, Princess Anne County, a most suitable locality, and lower portions of rivers on the north side of Chesapeake Bay. Unless the weather be very cold, they remain with us until the middle or latter part of December, returning again the last of March, or a little later; weather con-

ditions affecting it somewhat. Like the other rails, the migration is made during the night. A handsome specimen was once brought to me early one morning, dead, having been picked up in the city street under the telegraph wires. The bird had been flying at such a rapid rate that when it hit the wire, the shock had ruptured the heart and death had been almost instantaneous, facts brought out when skinning it. The nest is placed a few inches above the water or wet ground, sometimes floating on the water, composed of dry flag blades and marsh grass, well concealed by overhanging vegetation. Eggs number seven to ten, the ground color a rich glossy cream, the entire surface blotched, and spotted with a reddish-brown, and milder markings of lavender. Size, 1.65x1.15. Only one brood a season. The young when hatched are jet black except their tiny, orange-colored legs, and as soon as their coat becomes dry, they leave the nest and follow the parent. Vegetable matter, worms, beetles, snails and seed, form the principal part of their food.



PHOTO BY O. REINECKE.

WOODCOCK.

FAMILY SCOLOPACIDÆ.—SNIPES, SAND-PIPERS, ETC.

GENUS PHILOHELA.

[228]. *Philohela minor* (Gmelin). Woodcock.

RANGE.—Eastern North America. Breeds from northeastern North Dakota, southern Manitoba, northern Michigan, southern Quebec, and Nova Scotia south to southern Kansas, southern Louisiana, and northern Florida; winters from southern Missouri, the Ohio Valley, and New Jersey (rarely Massachusetts) south to Texas and southern Florida; ranges casually to Saskatchewan, Keewatin, Colorado, Newfoundland, and Bermuda.

Probably this bird will be seen by less people, other than the sportsman, than almost any bird on our list. He frequents the low marshy ground, especially in and around woods, sticking his long bill deep down into the mud or soft earth in quest of insects, worms and larvæ, and leaving a small round hole, a sign easily detected by the close-observant sportsman when in quest of him. Never flying by day, unless flushed, he feeds mostly in the dark shadows of the woods, only to emerge at night as his legitimate time of action. During favorable seasons a few of these birds remain throughout the winter, the majority, though, going further south during November. The migration northward begins early in March; favorable weather many reach us in February, and during these migrations many are shot by the local gunners. They are, however,



FLORIDA GALLINULE

becoming less common each year, until a bag of from four to eight birds is considered an exceptionally good day. Eggs are deposited with us the first week in March, while a female with young riding on her back has been noted on March 22nd. The nest is a slight depression in the ground, on some high spot bordering the swamp or marsh, lined with dry leaves. The eggs number four, a glossy buff-cream ground, spotted and blotched over the entire surface with a light shade of brown, and fainter blotches of lavender. The eggs are blunt pyriform in shape, size, 1.50x1.14. Only one brood a season. I found them abundant in western Virginia as high as 3,500 feet altitude.

GENUS CATOPTROPHORUS.

[258]. *Catoptrophorus semipalmatus semipalmatus*.
(*Gmelin*). *Willet*.

RANGE.—North and South America. Breeds from Virginia (formerly Nova Scotia) south to Florida and the Bahamas; winters from the Bahamas to Brazil and Peru; accidental in Bermuda and Europe.

This was formerly a very abundant game bird all along our coast, often being found in numbers even on the lower shores of our large rivers and Chesapeake Bay. It is, however, fast becoming a bird of the past, and within a few years they will be considered a rare bird with our coast sportsmen. Being one of the earliest birds to lay, many are shot by the spring gunners after being mated and with eggs, a condition sure to diminish if not exterminate sooner or later any species of bird, no matter how

plentiful. They arrive from the south about April 15th, apparently mated at that time. During the nesting season it is a most noisy bird, their oft-repeated cry of "Pilly willet, Pilly willet," high overhead, attracting the attention of everything for hundreds of yards around. Formerly the nests were quite easily found, being placed among the sand dunes near the beach, but the few remaining pairs on our coastal islands have learned to nest further back toward the bay side, where, amongst the tall, thick grass, they are very hard to locate. Sometimes they lay out on the marsh, though this practice is not common. The nest is a slight hollow in the sand or earth, a few fine grasses for an inner lining. The eggs number four, the ground color a bright, glossy, greenish- or grayish-buff, heavily spotted and blotched with various shades of brown, and undermarkings of lavender, preferably on the larger end.

Fresh eggs May 17th to 25th. Only one brood a season. The eggs are pyriform in shape and measure 2.10x1.60. They leave us for their migration southward the latter part of September. The greater part of their food consists of tender rootlets, seeds, snails, and marine insects cast up by the tides.

GENUS BARTRAMIA.

[261]. *Bartramia longicauda* (Beckstein). Upland Plover.

[Field Plover].

RANGE.—North and South America. Breeds from northwestern Alaska, southern Mackenzie, central Keewatin, central Wisconsin, southern Michigan, southern



WILLET

Ontario, and southern Maine to southern Oregon, northern Utah, central Oklahoma, southern Missouri, southern Indiana, and parts of Virginia; winters on the pampas of South America to Argentina; in migration occurs north to Newfoundland and in Europe; accidental in Australia.

This is probably one of our rarest species, and is, I think, the next bird to become extinct. Formerly they were very common over our area, but of late years one seldom sees them, especially in the breeding season. They arrive from the south about April 22nd, and migrate southward early in August, about the 8th. Like the Willet, they are a very noisy bird when one is near their nest, though it is much harder to find than the nest of that species. For a breeding ground, they prefer an old pasture or a low, sandy waste covered with short grass, the nest being a slight hollow scooped in the ground and lined with fine grasses. The nest is generally located in some dense growth or clump of grass or weeds, making it invisible from many angles. Four eggs is a full set; the ground color a rich, creamy buff, finely specked and blotched with light reddish-brown and faint undermarkings of lavender. Size, 1.73x1.23. Fresh eggs June 1st to 10th. They raise but a single brood a season with us. When plentiful and during the migrations, they were a bird much sought after by the gunners, and their habit of resorting to the open meadows, fields and pastures, where they fed on grasshoppers, worms, cutworms and locusts, was the main factor in their decrease. During such times they were persistently hunted by the local inhabitants and market gunners, until now they have become a novelty in a huntsman's bag. They should be rigorously protected at all times. A few pair still breed in the State as far south as Montgomery County.



PHOTO BY ALEX. WALKER.

THE HOME OF THE SPOTTED SANDPIPER.

GENUS ACTITIS.

[263]. *Actitis macularia* (Linnæus). *Spotted Sandpiper*.

[Teeter. Tip Up. Sand Snipe].

RANGE.—North and South America. Breeds from tree limit in northwestern Alaska, northern Mackenzie, central Keewatin, northern Ungava, and Newfoundland south to southern California, Arizona, southern Texas, southern Louisiana, and northern South Carolina; winters from California, Louisiana, and southern Virginia to southern Brazil and central Peru; stragglers to Great Britain and Helgoland.

This little shore bird, or "Teeter," as called by the local residents, is a most common bird with us during the entire year. Even along the salt water shores of our bays and rivers it can always be seen running along in and out the surf foam, looking for insects and other marine crustea cast up by the waves. The inland ponds and marshy places also have their numerous pairs, around which places they really seem more at home, and breed to a greater extent. Their cry of "teeter, teeter, teeter," on being flushed, and uttered while flying over the waters, is one of the easiest ways of identifying them. The nest is a slight depression in the ground amongst the thick grass, placed well for concealment, and lined with weed stems, grasses or seaweed. The eggs number four to five, generally the former, pyriform in shape, a grayish-buff ground color, spotted, specked and blotched with brownish-black, or black. Size, 1.35x.90. The young leave the nest soon

after being hatched, and their downy coats have the protective coloration scheme so well carried out that it is almost impossible to distinguish them, especially on the sandy beach amongst the shells, pebbles or stones. They raise only one brood a season. Fresh eggs June 1st to 10th. Their food consists principally of insect matter cast up by the water, or inhabiting the wet edges.



PHOTO BY ALEX. WALKER.

KILLDEER.

FAMILY CHARADRIIDÆ.—PLOVERS.

GENUS OXYECHUS.

[273]. *Oxyechus vociferus* (Linnæus). Killdeer.

[Killdee].

RANGE.—North and South America. Breeds from central British Columbia, southern Mackenzie, central Keewatin, and central Quebec south to the Gulf Coast and central Mexico; winters from California, Arizona, Texas, Indiana, New Jersey, and Bermuda south to Venezuela and Peru; casual in Newfoundland, Paraguay, and Chile; accidental in Great Britain.

There was a time some fifteen or eighteen years ago when this shore bird was one of the common breeding birds all over Virginia, but of late years it has become more scarce each season, until it has entirely disappeared on the James River Peninsula as a breeder, and but few pair still breed on the Eastern Shore, and in Princess Anne County. During the migrations a few pair are now seen in the plowed fields and pasture land, while now and then a small flock on the beaches and flats, a remnant of a once plentiful bird/ with us. The farmers tell me, "Many years ago one could find two or three pair nesting in every field on their farms, but nowadays they seldom even hear one the year round." They do, however, migrate in greater numbers, and breed sparingly further inland. They are a pleasing, though noisy, bird to have around the farm, and they do a great deal of good by gathering worms and insects from the fields. They are



PIPING PLOVER

exceptionally active birds on their legs, and one can follow an unstartled bird all over a field many times, the bird running ahead some thirty to fifty feet, all the while gathering up insects at each interval of stopping.

The nest is placed in some open field, pasture or corn field, a slight depression in the ground, with a few straws or blades of grass as a lining. The eggs number three to four, and are pyriform in shape. The ground color when fresh a beautiful light olive buff, heavily blotched and spotted with black. Size, 1.52x1.12. The birds wintering with us are presumably northern birds, while our breeding birds migrate further southward. Only one brood a season, the young, like all the shore birds, leaving the nest almost as soon as being hatched. Fresh eggs May 20th to June 1st. The great amount of grasshoppers, locusts, beetles, earthworms, caterpillars and other insects, eaten by these birds should place them at the front of the beneficial list of birds, and every landowner in the country should give them the best of protection.

GENUS *ÆGIALITIS*.

[277]. *Ægialitis meloda* (Ord.). *Piping Plover*.

[Little Plover. Ring Neck].

RANGE.—Eastern North America. Breeds locally from southern Saskatchewan, southern Ontario, Magdalen Islands, and Nova Scotia south to central Nebraska, north-western Indiana, Lake Erie, and Virginia; winters on the coast of the United States from Texas to Georgia, and in northern Mexico; casual in migration to Newfoundland, the Bahamas, Greater Antilles, and Bermuda.



PHOTO BY THE AUTHOR.

NEST OF THE WILSON'S PLOVER.

This is another bird fast becoming extinct on our coast, the main reason for which is that they are shot at by the gunners who are after spring beach birds, when other larger varieties are lacking. They are tame little fellows, and, when driven by curiosity, will come within a few feet of a person sitting still on the sand dunes. They usually breed in small colonies, four to ten pair, the nest a hollow in the sandy beach, well back from the ocean, in which is laid four eggs. They choose, however, a place where shells, stones and pebbles are numerous, thus affording the nest abundant color protection. The eggs are pyriform in shape, the ground a pale gray, spotted and specked with black. Size, 1.25x1.00. Fresh eggs June 25th to July 1st. Only one brood a season. Seeds and insect matter, cast up by the waves and tide waters, form the greater part of their food.

GENUS OCHTHODROMUS.

[280]. *Ochthodromus wilsonius* (Ord.). Wilson's
Plover.

[Stuttering Bird].

RANGE.—Southern North America. Breeds from Texas eastward along the Gulf Coast, and from southeastern Virginia (formerly New Jersey) south to the northern Bahamas; winters from southern Lower California, Texas, and Florida south to southern Guatemala and probably to the West Indies; casual in Nova Scotia and New England, and at San Diego, California.

As a breeding bird it is fast becoming uncommon on our coast, though as late as 1896 it was still abundant. The

scarcity of other "beach birds" of late years has been the cause of its decrease with us, the spring gunners having turned to this little plover when other larger birds were lacking. They present a very pretty sight, a flock with their snow-white underbreasts, black feet and bills, and broad band of black on the upper breast, following the surf foam as it runs in and out on the sandy beach, now and then all standing still with head drawn in, many balancing themselves on one leg and evidently asleep for an instant. The nest is a slight depression in the sandy beach, back from the ocean some twenty to fifty feet, among the shells and trash thrown up by the spring tides. The eggs number three to four, generally the former, the ground color a rich greenish-gray, blotched, spotted and lined with blackish-brown, and light lavender. Size, 1.40x1.05. Fresh eggs May 12th to June 10th. Only one brood a season. They arrive with us about May 1st. Their food is similar to the former species, and procured on the mud flats and ocean beaches.



PHOTO BY THE AUTHOR.

NEST AND EGGS OF THE OYSTER-CATCHER.

FAMILY HÆMATOPODIDÆ.—OYSTER-CATCHERS.

GENUS HÆMATOPUS.

[286]. *Hæmatopus palliatus* (Temminck). *Oyster-catcher*.

[Sea Crow].

RANGE.—Coasts of North and South America from Texas, Louisiana, and Virginia (formerly New Jersey) south on both coasts of Mexico to the West Indies, southern Brazil and central Chile; casual north to New Brunswick. Breeds probably throughout its range.

This is the next bird to become extinct on our Virginia coast, for it is truly a scarce bird now. Formerly it was fairly plentiful all along the coastal, and island sandy beaches, but of late years it has become so scarce that none of our islands can boast of over one or two pair of breeding birds, some not that. This large, showy bird fell an easy mark to the spring gunners, breeding as it did during the height of the spring migration of "beach birds," from May 10th to 25th. Nesting among the sand dunes or flat beaches back from the ocean, over which the spring gunners tramped daily, these birds were right in the line of travel, so to speak, and were either killed, or their nests broken up. As they laid only from two to three eggs a setting, the increase has been less than decrease, and they have become fewer and fewer year after year. It was my good fortune to find on Fisherman's Island on June 22nd, 1900, a set of four eggs of this species, the only set of this



OYSTER-CATCHER

size I have ever heard of. They arrive about April 18th and depart early in September. The nest is only a slight hollow in the sandy beach or sand dune, around which is generally gathered a few bits of beach shell. The birds make large footprints, and many well-trodden paths lead to their nests, making them rather easily located, especially after incubation has commenced. The eggs are a beautiful shade of creamy buff, blotched and spotted with dark brown and faint lines of lavender. Size, 2.20x1.50. Only one setting a season. Its food consists of mussels, manoes, snails, worms, shrimps and small crabs, while many insects are also eaten by them.



PHOTO BY THE AUTHOR.

NEST OF THE BOBWHITE.

FAMILY ODONTOPHORIDÆ.—BOB-
WHITES, QUAILS, ETC.

GENUS COLINUS.

[289]. *Colinus virginianus virginianus* (Linnaeus).
Bobwhite.

[Quail. Partridge].

RANGE.—Upper Sonoran and southern half of Transition zones of eastern North America from South Dakota, southern Minnesota, southern Ontario, and southwestern Maine south to eastern and northern Texas, the Gulf Coast, and northern Florida west to eastern Colorado, introduced in central Colorado, New Mexico, Utah, Idaho, California, Oregon and Washington.

“The gamest bird that flies,” some sportsmen call him, and all through the summer from the ditch, corn, and fence rows, briar patches, and open grain fields, comes the cheery call of “Bobwhite, Bobwhite,” making him universally known, from the farmer at the plow to the autoist as he speeds along the country road. Notwithstanding he is persistently pursued year after year, even before the open season begins, and sometimes before many of the young birds are over half grown, this bird is holding its own fairly well all over this section. Weather conditions also have much to do with their numbers; notably, the season of 1911, birds were more numerous than for many years previous, due to the dry summer, but the long-continued cold weather, snow and sleet of January and February of 1912, depleted, if not wiped out entirely,

many fine coveys. Farmers should scatter a little grain for these birds during the winter time, for they are one of his best friends in the way of getting away with obnoxious seeds. A better plan still is to leave the edges of the pea and soja bean fields standing for cover and winter feed, a plan I practice on my own farm. An example of how fast they will increase was demonstrated on my own farm, where, in five seasons, they increased from one pair of purchased birds to six coveys, numbering not less than a total of one hundred and twenty-five birds, and each season these coveys had had a few shot from them by gunners, and some taken by foxes, hawks and cats. They become very tame during the breeding season, and if one's dogs are not allowed to run at large during the summer months, these birds will frequent and nest in close proximity to the house and in the kitchen garden, thus eating many injurious seeds and insects, as well as being a source of pleasure when listening to their cheery call notes. The nest is well protected, and composed of dry grasses, stems, pine straw, fine rootlets and dry leaves, placed in a slight depression in the ground and well arched over. The eggs number from nine to fourteen, and when laid are pure white. Size, 1.20x.95. Sometimes as many as twenty-eight or thirty eggs are found in a single nest, one layer on top of the other; these cases presumably being two birds occupying one nest, the result of which is not a satisfactory hatch. The eggs become nest stained very easily, and to a layman they would appear as though blotched and lined with a faint shade of lavender. Sometimes they raise two to three broods a season, weather conditions being favorable. On my place I have had a female sitting on a third set of eggs September 15th. They are non-migratory. Fresh eggs from the middle of

May till August. Some writers state: "An egg is laid each day until the set is complete." I have known four days to elapse between eggs being deposited. The great amount of injurious seeds and insects eaten by them, makes them of great beneficial value to agriculture.



PHOTO BY W. O. EMBERSON.

AN ORNITHOLOGIST'S CAMP.

THIS PHOTOGRAPH SHOWS THE VETERAN ORNITHOLOGIST, WALTER E. BRYANT, IN CAMP; HIS CO-WORKER BEING OCCUPIED WITH TAKING THE PICTURE. TO THESE TWO WELL-KNOWN BIRD LOVERS THE AUTHOR IS INDEBTED FOR MANY PLEASANT AND INSTRUCTIVE HOURS.

INTRODUCED BREEDER.

FAMILY PLASIANIDÆ.—PHEASANTS
AND GROUSE.*Phasianus torquatus* (Gmelin).

Ring-necked Pheasant.

Of all the pheasant family introduced into Virginia, this bird probably is the most likely to become numerous; in fact, a good start has been made already in Warwick County, where some twenty birds were liberated by me in 1907, and which, from observations, leads me to believe are increasing rapidly. We have, however, a number of causes against their rapid increase, particularly the ever-hunting negro, with his old army musket, dogs running at large at all times, and the numerous forest fires at all seasons, and no progressive method for protecting and increasing them until a foothold is established; all of which tend to make it a matter of some years before any great number can be shot for game. That they are hardy birds and can increase rapidly was demonstrated in Washington State, where in five years from twenty pair liberated, the increase was so that fifteen hundred pair were killed the first open season for shooting. Mr. A. Croonenburg, of Lynnhaven, Va., has also been instrumental in introducing this bird in his section, as well as the Golden and Silver varieties. The eggs, ten to sixteen in number, are laid about the tenth of May with us, a glossy, unmarked, greenish-buff color. Size 1.52x1.32. The nest is a slight hollow scratched in the ground under or near some tree, or thick bush, or briars, with a few dry leaves or grasses for a lining. The female does all the incubat-

ing, the eggs taking from eighteen to nineteen days to hatch. Unlike any native bird we have, when flushed they rise almost perpendicularly to a height of forty to fifty feet, before continuing their journey elsewhere. They are a noble bird for both sport and table, beside being beneficial and ornamental, especially so the male bird. These birds are non-migratory and do not wander far from where reared, unless continually disturbed. When in confinement, if allowed to set on their own eggs, only one clutch is laid during the season, but if the eggs are taken away every day or so from the nest, they continue to lay until some twenty-five to thirty eggs are deposited. We must have a good game warden system throughout our State before these birds will be sold as game in the markets. As their food consists chiefly of insects, grubs, worms, beetles and their larvæ and eggs, I consider them a beneficial bird to introduce from an agricultural standpoint, as well as for food.

GENUS BONASA.

[300]. *Bonasa umbellus umbellus* (Linnæus). *Ruffed Grouse*.

[Pheasant. Partridge].

RANGE.—Eastern United States from Minnesota, Michigan, southern New York, and southern Vermont south to eastern Kansas, northern Arkansas, Tennessee, and Virginia, and in the Alleghenies to northern Georgia.

This well-known game bird of our inland region is reported as rapidly becoming more scarce each season, and



PHOTO BY C. F. STONE.

COLLECTING IN A SWAMP, WATER KNEE-DEEP.

THE STRING THAT RELEASED THE CAMERA SHUTTER IS SHOWN BY THE
WHITE STREAK FROM THE MAN'S HAND TO THE LOWER
RIGHT HAND CORNER.

unless something is done to help them they will, like the Wild Turkey, in a few years become truly a rare bird with us. As a game bird I consider them superior to the "Bobwhite," both on account of their size and the flavor of the meat, as well as affording most excellent sport to the gunner. On the other hand, they are very beneficial birds, their food consisting of practically nothing of benefit to the agriculturist: bush and tree buds, wild berries, small nuts, seeds and insects being largely eaten. They do not migrate, remaining with us through the winter, and early in March are paired off, after the male goes through his well-known tactics of drumming, the sound produced by the wings beating the air, and not on the log or elevation on which he stands, as thought by many. Like the Wild Turkey and Bobwhite, they like to dust themselves, and one often has a chance to see this wary bird with its young in the dry, dusty road, dusting themselves in the manner of the farmyard fowls. By the 10th of May fresh eggs can be found, the nest being a hollow in the ground and lined with dry leaves, pine needles and grasses, generally placed under some overhanging shelter of bush, tree trunk, vines or rock. Seven to fifteen eggs is a full set, a creamy-buff ground color, finely specked with reddish-brown, as often, though, unmarked as marked. Size, 1.58x1.18. The young follow the parent almost as soon as hatched; their food consisting of beetles, bugs, caterpillars, all the varieties of wild berries and grain that happen to be handy, though they do no damage to growing grain crops. My father found coveys of partly grown young at Harrisonburg, July 10th. Professor Smyth reports them as breeding at Blacksburg, though less abundant than formerly, and I found them in the mountains at 4,500 feet altitude.



WILD TURKEY

FAMILY MELEAGRIDÆ.—TURKEYS.

GENUS MELEAGRIS.

[310-A]. *Meleagris gallopavo silvestris* (Vieillot).
Wild Turkey.

RANGE.—Eastern United States from Nebraska, Kansas, western Oklahoma and eastern Texas east to central Pennsylvania, and south to the Gulf Coast, formerly north to South Dakota, southern Ontario, and southern Maine.

This truly magnificent bird, notwithstanding its continual depleted flocks by shooting and trapping, is still with us, but can not long stand the conditions now taking place in our State, unless something is done shortly for its protection. The large timber throughout our area is rapidly being cut off, and afterwards, with the remaining woods full of dead tops and limbs, follows the fire, sweeping everything before it, and practically making this a barren land for five or six years to come. During the last six years there has also been a steady increase in our section of farming lands being cleared and cultivated, while the new methods of farming leave little food or cover on the cultivated lands during the winter season. These two great factors, with necessarily more persons gunning for them, is rapidly extinguishing these noble birds, and pushing them further westward from our coast line. They are not a migratory bird, and one flock will inhabit a piece of woods and swamp land continuously if unmolested; or if not nearly exterminated. The practice of trapping them in pens, and shooting them while roosting

in the trees at night, has done much to decrease their numbers. The nest is a slight hollow scratched in the ground at the base of a tree or under some sheltering bushes, lined with dry leaves and a few feathers from the turkey's breast after incubation commences. The ground color is a rich buff, specked and spotted with reddish-brown. Size 2.65x2.00. Fresh eggs April 15th, nine to fourteen in number. Some fifteen years ago it was no uncommon sight to see an old pair with quarter- or half-grown young, dusting themselves in our more than dusty country roads, but with changed roads and other conditions, this is a rare sight nowadays, and becoming more so as the years roll by. They raise only one brood a season. They are a hardy bird, and during a dry season like that of the summer of 1911 and '12, hatch and raise nearly their entire setting. It is now becoming quite a practice with the farmers all over the country to cross a wild turkey gobbler with their domesticated flock, thus infusing hardiness into their stock. Many states are also introducing them as game birds, later, as their numbers increase, to be shot for sport and food. This means of propagation will probably save them from possible extinction. Their food consists of beechnuts, chinquapins and other acorns; wild berries and grapes; insects, grasshoppers, beetles, etc.

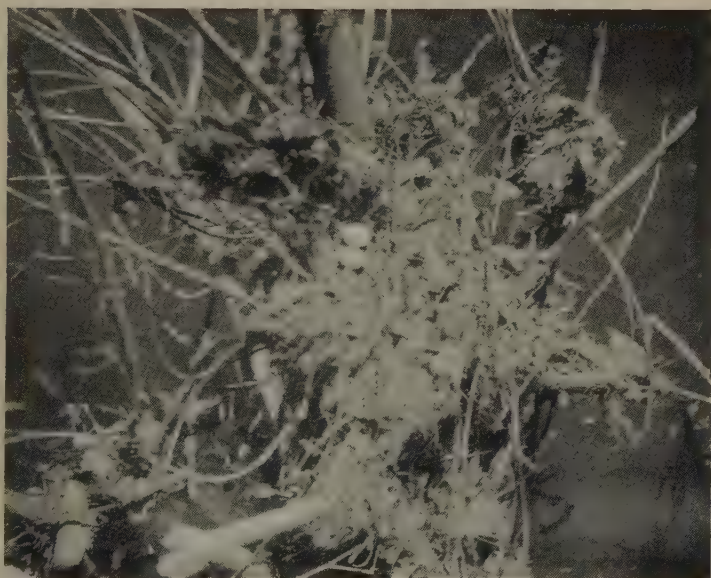


PHOTO BY THE AUTHOR.

A MOURNING DOVE'S NEST WAS LOCATED ON SOME DRIFT
OVER THE WATER.

FAMILY COLUMBIDÆ.—PIGEONS AND
DOVES.

GENUS ZENAIDURA.

[316]. *Zenaidura macroura carolinensis* (Linnæus).
Mourning Dove.

[Wild Dove].

RANGE.—North America. Breeds chiefly in Sonoran and lower Transition zones from British Columbia, Saskatchewan, Manitoba, Ontario, and southern Nova Scotia south throughout the United States and Mexico, and locally in Lower California and Guatemala; winters from southern Oregon, southern Colorado, the Ohio Valley, and southeastern Virginia to Panama; casual in winter in the middle states.

Years ago large flocks of these birds wintered with us and fed in the corn fields and on the black peas sown with the corn. Of late years, while not rare, fewer birds are seen, and then only in small flocks. It is still considered a game bird with us, but should be protected, as it does the farmer much good by eating numerous weed seeds, especially throughout the winter months. The whistling noise made by the rapid beating of their wings makes them easily recognized, while during the summer months their loud cooing is a pleasing sound to the ear. The nest is a frail, loosely made platform of twigs, saucer shaped, and so shallow that the eggs are readily seen when one is on the level of the nest, and often can be seen from below, so loosely is the bottom constructed. Two eggs are the

usual number laid, though once during my period of collecting I have found three in a nest. They are creamy, glossy white, oval in shape, and measure 1.15x.80. Fresh eggs are found April 10th to June 15th, as two broods are raised during a season generally. They are distributed about evenly over our whole area during the summer. Their food consists of various wild seeds, and the partridge peas, soja beans, different varieties of cow peas, wild berries and insects. Taking their food as a whole, I consider them of much benefit to the agriculturist.



PHOTO BY T. H. JACKSON.

A TURKEY VULTURE'S NEST AND EGGS.

FAMILY CATHARTIDÆ.—AMERICAN
VULTURES.

GENUS CATHARTES.

[325]. *Cathartes aura septentrionalis* (Wied). Turkey
Vulture.

[Buzzard. Turkey Buzzard].

RANGE.—Austral and Transition zones from southern British Columbia, Saskatchewan, western Manitoba, northern Minnesota, southwestern Ontario, western and southern New York, and New Jersey south to southern Lower California and northern Mexico; winters throughout most of its regular range on the Atlantic slope but westward retires to California, Nebraska, and the Ohio Valley; casual in Wisconsin, Michigan, northern Ontario, and New Brunswick.

There is no bird, in my estimation, that has reached the height of perfection in its flight-sailing powers that the Turkey Vulture or Buzzard has attained. Watch him on a windy day; no matter how hard it blows he goes right into the teeth of the gale without flapping a wing. After he reaches a certain height from the ground, about fifty feet when rising from it, he can sail by spirals out of sight without a perceptible wing beat. Many persons think the sea gull a greater master of this art, and while I admit the gulls are more graceful, still the Turkey Vulture is his superior in a wider area. It seems a pity that a bird that can have such wonderful talents in flight should be a carrion bird, getting his food entirely on the

ground and at rest. A gorged bird sitting on some nearby fence rail, close to the cleanly picked skeleton, presents an entirely different aspect than when in flight; a more repulsive bird I do not know of. There is considerable talk the last few years of this bird and the following species, spreading diseases, or more particularly hog cholera. While I admit that there is probably much truth in this statement, and that many valuable hogs are lost through the spreading of this disease, on the other hand the amount of good they do will outweigh this two to one. When the farmers are educated up to burying their dead stock, this means of spreading diseases will stop, while the birds, thus deprived of this great amount of food, will be overzealous in their search for other edibles. Take our Tidewater beaches for instance; what would become of the refuse cast up by the tide were it not for these birds? Especially in the summer time, when the beaches are strewn with dead fish, are they most useful. There are many reasons, too numerous to mention, why they should not be exterminated as some people are now suggesting. The two eggs are deposited in some hollow log, hole at base of tree, or under a dead, fallen tree top, two in number. The ground color is a creamy-white, spotted and blotched with various shades of brown and lavender, and measure 2.75x1.90. Fresh eggs April 10th to May 1st. Only one brood a season. They remain throughout the entire year, though during the extreme cold spells some may migrate a little southward, only to return to their favorite locality as soon as the weather changes. I experienced seeing a migratory flock of probably one hundred birds returning from the south side of James River after a break in the cold spell of January, 1912.



PHOTOS BY O. E. BAYNARD.

THE BLACK VULTURE AND ITS EGGS.

GENUS CATHARISTA.

[326]. *Catharista urubu* (Vieillot). *Black Vulture*.

[South Carolina Buzzard. Black Buzzard].

RANGE.—Tropical and Lower Austral zones from western Texas, Kansas, Illinois, Indiana, and southeastern Virginia south through the Southern States, Mexico, and Central America to southern South America; casual in Ohio, Maine, Quebec, New Brunswick, and Nova Scotia; rare in the West Indies.

The Black Buzzard, Black Vulture, or Carrion Crow, is easily distinguished from the preceding species when in flight by its short, curved wings, and its rapid wing beats between each sail; in fact, unlike the Turkey Vulture, it seldom sails for any great distance without the rapid wing beats. When sitting still it is easily distinguished by its short dark body and black head and neck. The range of this species is gradually being extended north and eastward, formerly seldom seen on the north side of James River. It now occurs in Warwick, York, and Elizabeth City counties, breeding in the former, possibly in the mountains. Like the preceding species it feeds on carrion, and along the beaches from Virginia Beach southward it may be found feeding on the dead fish. It makes no nest, the eggs being deposited in some hollow log, hollow at base of tree, or under a dead tree top or thick tangle of brush, etc. Two eggs are usually deposited by May 1st, they being later birds to breed than the Turkey Vulture. The eggs are a faint greenish-white, spotted, blotched and streaked with various shades of brown and lavender, more often on the

larger end. While a smaller bird than the preceding species, the eggs are larger and measure 2.99×1.99 . There is no doubt but what they are a most useful and economic bird. From the south side of Chesapeake Bay, Hampton Roads and James River, they become more numerous, often a tall dead tree having from three to a dozen sitting on it during the early morning, sunning or drying themselves; with wings outstretched. It was once reported to me that these "Black Buzzards took newborn pigs from out the pen," but I am still rather skeptical about such an act, as in this case I knew of a Bald Eagle building on the man's farm, and when more closely questioning him, made him admit it might have been a young, or immature, colored eagle that took his pigs. They are now also abundant in Rockingham County.



FOURTEEN, SIXTEEN, AND EIGHTEEN DAYS OLD.



PHOTOS BY V. BURTCH.
TWENTY-FIVE DAYS OLD.

YOUNG OF THE MARSH HAWK.

FAMILY BUTEONIDÆ.—HAWKS, EAGLES,
KITES, ETC.

GENUS CIRCUS.

[331]. *Circus hudsonius* (Linnæus). Marsh Hawk.

RANGE.—North America. Breeds from northeastern Siberia, northwestern Alaska, northwestern Mackenzie, central Keewatin, northern Quebec, and Prince Edward Island south to the southern border of the United States; winters from southern British Columbia, Colorado, Iowa, the Ohio Valley, and New York (occasionally Massachusetts) south to the Bahamas, Cuba, and Colombia.

This is not a common bird with us, the majority are seen during the migrations, both spring and fall. It does, however, breed along our coast in suitable places, the swampy ground covered with marsh grass and bushes on the islands being a favorite abode in years past, though it is now almost rare as a breeding bird over these islands. This is one of our most beneficial hawks, if not the most, for its food consists of practically nothing of use to the agriculturist; rats, mice, frogs, small snakes, insects and lizards, being its chief food. Occasionally it does take small birds, the sparrows being the representative family. Its nest is composed of small sticks, weed stems, grass and marsh trash of all descriptions, placed on or very near the ground, and never far from water. Four to six eggs average a complete set, a pale bluish-white, generally without markings of any sort. The eggs average 1.80x1.40. I attribute their scarcity along our coast to the gunners who shoot shore birds both spring and fall. These men,



PHOTO BY C. F. STONE.

NEST AND EGGS OF THE SHARP-SHINNED HAWK.

like most others, imagine they are harmful, and scare away and destroy much game, whereas, when passing to and fro over the marshes, they are gathering in principally mice and the Norway rat, which inhabit the marshes to a great extent. Fresh eggs May 1st to 10th. Only one brood a season. A few birds are distributed throughout our area during the entire year.

GENUS ACCIPITER.

[332]. *Accipiter velox* (Wilson). *Sharp-shinned Hawk*.

[Little Chicken Hawk].

RANGE.—North America. Breeds nearly throughout the United States and Canada from northwestern Alaska, northwestern Mackenzie, southern Keewatin, central Quebec, and Newfoundland southward; winters from British Columbia, Colorado, Iowa, northern Ohio, and Massachusetts, south to Panama.

Of all the birds of prey found breeding within our limits, this is one of the most harmful, not only to young poultry, but the amount of small birds they destroy in the course of a season is something enormous. They are a rare breeding bird in Tidewater, although further inland they become more numerous. I suppose this species is more often taken for the Sparrow Hawk than itself by the country people in general; in fact, many beneficial Sparrow Hawks lose their lives annually through being mistaken for the Sharp-shinned Hawk. I know of no more persistent individual than the Sharp-shinned, and when once he has located your chicks and tasted one, nothing short of a gun will keep him away. I have had



PHOTO BY T. H. JACKSON.

YOUNG OF THE COOPER'S HAWK.

as many as six chickens a day carried away by one of these birds, and a friend farming not far from me reports the loss of eight in one day by one bird. During the spring and fall migrations they are quite numerous, and throughout the summer, one or two are occasionally seen. During the spring migration northward large numbers pass through this section, April 3rd to 11th. Its food consists almost entirely of small poultry and birds, while now and then small snakes, mice, and insects form a variation of their bill of fare. The varieties of birds usually represented in their stomachs are the sparrows, warblers, juncos and goldfinches. The nest is composed of dry sticks, leaves and twigs, with inner surface of strips of inner bark of the juniper, cedar, cypress, or pine, placed in a thick live pine or cedar, or cypress, from twenty to thirty feet up. Sometimes the birds rebuild an old crow's nest. Four to five eggs is a full set, generally beautifully colored, and showing a wide variation in both size and color of markings. The ground color of the eggs is bluish or greenish-white, blotched and spotted with various shades of brown and lavender. Size 1.45x1.15. Fresh eggs May 10th to 20th. Only one brood a season. Like the Sparrow Hawk, one sees him more often when driving along the country roads, perched on top of the telephone poles, often flying from one to another just ahead of your conveyance, for four or five posts, and then off to the field in a low flight three or four feet above the ground, alighting on the top of some small, near-by bush or low tree. Some counties still pay a bounty of fifty cents for hawk scalps. One of this species are well worth it to the county, but it is generally some luckless Marsh or Broad-winged Hawk the bounty is paid on. Many pass through this section September 15th to 25th, the height of the fall migration.



PHOTO BY T. H. JACKSON.

AGE ABOUT FOUR AND A HALF WEEKS.

YOUNG COOPER'S HAWKS.

[333]. *Accipiter cooperi* (Bonaparte). *Cooper's Hawk*.

[Chicken Hawk].

RANGE.—North America. Breeds from southern British Columbia, southern Alberta, southern Keewatin, central Quebec, and Prince Edward Island south to southern border of the United States; winters from southern British Columbia, Colorado, Nebraska, Ohio, and Massachusetts south to Costa Rica, and occasionally further north.

A resident the year round, and of our harmful species, this is probably the worst of all. It is this hawk, half-way in size between the Red-shouldered, and Sparrow Hawks, that does the most damage to the poultry throughout our section. I have, on my place, lost as many as six small chickens from one flock in a day, by this persistent and rapid-winged fellow. During the spring and fall migrations they are more numerous, and the very early and late hatched chickens suffer accordingly. They also prey upon small birds and mammals to some extent, but their chief diet with us seems to be poultry. I remember some years back when Meadowlarks (*Sturnella magna*) were on the game list, and I was shooting them in a tall broom-straw field. A Cooper's Hawk darted down and seized one as it rose in front of me. I immediately fired and secured the hawk, the lark sailing away as though unhurt. During the summer of 1910, I had one of these hawks take a half-grown chicken from a flock in my garden, and within fifteen feet of where I was working. I watched him vanish in the fringe of woods some hundred feet away and counted another chick gone. Two days later the chicken showed up, quite weak, and with scars on



PHOTO BY C. F. STONE.

THE RED-TAILED HAWK'S NEST.

either side of his crow; evidently on arriving at his perch the hawk had dropped it, and the chicken had hidden on striking the ground. The nest is rather a poorly made affair, often a deserted crow's or squirrel's nest added to; of sticks, dry leaves and strips of bark, lined with bark fiber. Fresh eggs May 10th to 15th, four to five in number. The eggs have a pale bluish ground, sparingly marked with blotches of pale reddish-brown. The majority of sets are unmarked. The nests are usually placed in a crotch of beech or other hardwood trees, from twenty to forty feet up. Size of eggs, 1.90x1.45. Only one brood a season.

GENUS BUTEO.

[337]. *Buteo borealis borealis* (Gmelin). *Red-tailed Hawk.*

[Hen Hawk. Fantail].

RANGE.—Eastern North America, from Saskatchewan, Wisconsin, and Illinois east to central Keewatin and Newfoundland, and south to eastern Texas, northeastern Mexico, the Gulf Coast, Florida, and the Greater Antilles.

This is the largest of the hawks breeding within our area, and is by no means a common one, though further inland it becomes so. A few breed on the "Eastern Shore," becoming more common as we go northward, while Mr. J. E. Gould, of Berkley, positively identified a pair of birds breeding near Money Point in Norfolk County. They do not breed on the James River Peninsula at all, and are rather a scarce bird throughout our coast



PHOTO BY THE AUTHOR.

A RED-SHOULDERED HAWK'S NEST.

area. The nest is a well-made, though bulky, affair of small sticks and twigs, dry leaves, and bark fiber, placed in a tall tree from forty to seventy feet up in heavy woods or timber. The eggs number from two to three, a white ground, spotted and blotched with different shades of brown. Often the eggs are unmarked. Size, 2.35x1.80. These birds, like all the others of the hawk family, are persistently shot and persecuted by all gunners on account of their being known as poultry thieves, though this practice by the birds is seldom resorted to unless pushed by extreme hunger. They remain throughout the entire year and raise but one brood. Their food consists of the various small mammals, such as young rabbits, squirrels, moles, mice, lizards, snakes, frogs, and insects. As a whole they are more beneficial than harmful.

[339]. *Buteo lineatus lineatus* (Gmelin). *Red-shouldered Hawk*.

[Hen Hawk].

RANGE.—Eastern North America. Breeds from Manitoba, southern Keewatin, southern Quebec, Nova Scotia, and Prince Edward Island south nearly to the Gulf States and west to edge of the Great Plains; winters south to the Gulf Coast.

This is our most common resident hawk, and is the cause of the killing of the Broad-winged and Marsh Hawks by all gunners in general. While this hawk (Red-shouldered) will occasionally take a small or half-grown chicken (and I have had them take mine too), their main diet of food is small mammals, such as mice, young



PHOTO BY T. H. JACKSON.

ABOUT THREE WEEKS OLD.

YOUNG BROAD-WINGED HAWKS.

rabbits, squirrels and moles, occasionally a small green snake and bull frogs. They also destroy a lot of obnoxious insects, beetles, grasshoppers, and caterpillars also being on their bill of fare. Nests with young visited by me have had most of the above food at different times lying around the rim of the nest. One pair of hawks had supplied their young, judging by the remains, three half-grown rabbits in one day. The young Red-shouldered Hawks are easily raised; numerous times I have done so with just raw beef and mice as a diet. They can not be tamed to any extent, and, should one discontinue handling them for a week, they become very wild and fierce, as though you had never touched or fed them before. The nest is a well-made affair of small sticks, dry leaves and strips of bark, and lined with pine tags, fine bark strips, cedar or spruce foliage, and generally, after eggs are deposited, green leaves of the oak or maple may be found. A few years back they invariably bred in the main crotches of oak and black-gum trees; nowadays they resort to live pines mostly. The height of nests varies from twenty-five to fifty feet above ground, and is not far distant from some small swampy ravine or marsh. Two to four eggs are laid, April 1st to 10th, ground color, grayish-white, spotted and blotched with various shades of brown. Only one brood a season. Size of eggs, 2.15x1.75.

[343]. *Buteo platypterus* (Vieillot). *Broad-winged Hawk.*

RANGE.—Eastern North America. Breeds from central Alberta, southeastern Saskatchewan, northern Ontario, New Brunswick, and Cape Breton Island south to the Gulf

coast and central Texas, mainly east of the Mississippi; winters from the Ohio and Delaware Valleys south to Venezuela and Peru.

Though during a residence of over twenty years in this section, during which time I have failed to find an authentic record of these birds breeding in Tidewater, I am still rather certain that a pair do breed with us now and then. William C. Rives' "Catalogue of the Birds of the Virginias," quotes Mr. C. L. Phillips as having seen a dead bird in Warwick County in May, 1887. This was probably a migratory bird, as many hawks are still going northward during the early part of that month. They do breed, though, in the western part of this State, and northward near Washington. I am not prepared to say if they positively breed eastward of Richmond. The nest is usually placed in the crotch of some large tree, from ten to thirty feet up, rather a bulky, loosely made structure of small sticks, with inner surface of cedar bark and scales of the pine tree bark. The eggs have a dull whitish or faint greenish ground, blotched, dotted and lined with faint and heavy markings of chestnut or reddish-brown. Size of eggs, 1.90x1.55. Two to three eggs, rarely four, constitute a full set, and are laid about May 5th to 20th. Only one brood a season. Numerous birds of this species are seen during the migrations, and a few winter with us. Their food consists of all the smaller mammals, such as squirrels, rats, mice, and young rabbits, while frogs, beetles, and grasshoppers form a large part of their daily food. Small snakes and birds are occasionally eaten, though in the minority, and they should be classed as a beneficial bird, and be protected.



PHOTO BY THE AUTHOR.

NEST OF THE BALD EAGLE IN LIVE PINE.

HYPOTHETICAL.

GENUS AQUILA.

[349]. *Aquila chrysaëtos* (Linnæus). *Golden Eagle*.

RANGE.—Northern part of Northern Hemisphere. In the Old World south to North Africa and the Himalaya; in North America from northern Alaska, northwestern Mackenzie, central Keewatin, and northern Ungava south to middle Lower California, central Mexico, western Texas, South Dakota, Manitoba, southern Keewatin, central Ontario, New Hampshire, Maine, and Nova Scotia, and in the Alleghenies to southwestern North Carolina; less common east of the Mississippi.

This noble bird seems to be more common with us in the winter than during the summer season. They have been reported as breeding in our higher mountains, though Professor Smyth only reports them as an "irregular fall and winter migrant, nine specimens in all, mostly taken during November, December and February." They are even less common than this in the Tidewater section. Many persons confuse the young of the Bald Eagle for this fine bird, on account of the immature Bald Eagle not having the white head and tail, which plumage is not reached until the third year. One can, though, readily distinguish these two birds from each other, the Golden Eagle having the feathers on the tarsus or lower leg, all the way down to the feet, while those of the Bald Eagle stop at the upper joint. Unless hard pressed for food, they will not take carrion or fish, so well liked by the Bald Eagle, preferring

to capture live food, such as squirrels, rabbits, duck, geese and other mammals and birds. It was one of my most pleasant experiences while in California, where they breed commonly, seeing one of these fine birds capture a ground squirrel. Mr. Arthur T. Wayne records in his "Birds of South Carolina," "a Golden Eagle having killed as large a bird as a Wild Turkey." With us they make their nests on the cliffs; of sticks, and smaller stubble, lined with leaves or weeds. The eggs, two (rarely three) in number, are white and most handsomely blotched and spotted with various shades of brown, with fainter markings of lavender. Size, 2.85x2.48. Fresh eggs April 1st. This is the bird that should have been our national emblem. I could find no *positive* evidence of their breeding in Giles County, though birds are often seen passing over Bald Knob, going southward. I observed three eagles as late as May 19th above Mountain Lake, and every indication leads me to believe they do nest on our cliffs in the Alleghenian Range.

GENUS HALIÆTUS.

[352]. *Haliæetus leucocephalus leucocephalus*
(*Linnæus*). *Bald Eagle*.

[White-headed Eagle. Sea Eagle].

RANGE.—United States to southern Lower California and northern Mexico, breeding in suitable localities throughout its range; rare and local in California and in the arid interior.

A common resident the year round and distributed over our whole section. One wishing to see these

birds should visit the beaches in the vicinity of the large fish nets, both on the bay and ocean beaches. Here one may sometimes see six or eight at once, either perched along the long rows of net stakes, watching the passing schools of fish, or fighting with the buzzards over the refuse fish thrown on the beach by the fishermen on their return from visiting their nets. Formerly nests were quite easily located, but since the lumber craze has struck our section, all the eagles' home tracts and large live pine trees have nearly all been cut off, and they are rapidly being driven further and further inland on this account. Their principal diet is fish, caught from the fish stakes, and taken from the Osprey. During the winter they chase and kill ducks and other wild fowl, often a full-grown Canada Goose, being as much as they can get to shore with, weighing about 10 lbs. Some farmers in our section still tell the usual story of their carrying off young pigs and lambs, but I have yet to substantiate such stories. Occasionally I have in the summer time come across these birds devouring carrion washed up by the waves of the beaches: eels, croakers, dogfish and bunkers being abundantly represented. The nest is a huge affair of sticks, placed in the top crotch of a live or dead pine tree, and used by the same pair of birds year after year. On the inner surface as a lining, seaweed is generally used. Fresh eggs February 15th to March 1st. Two to three eggs are a complete set, pure white, unmarked. Size, 2.75x2.10. Incubation takes thirty-one days, and it is about sixty-five days before the young are in condition to fly. The bird is easily raised in captivity but never becomes very tame. The birds remain paired for life, the young not attaining the white head and tail until the third season. They should be protected, not only because

they are the National Emblem, but because they do a great deal of good. They raise but one brood a season. The tallest tree with a nest in this section from which eggs have been taken was a pine tree in Princess Anne County, in 1913, the bottom of the nest being one hundred and ten feet up. This nest was ten feet high, seven feet across, and would, I judge, weigh nearly a ton. It had been occupied for over twenty years, presumably by the same pair of birds, and, as we only secured a single incubated egg, judge they were very old birds. In the mountains they make their nests on the cliffs.



PHOTO BY ALEX. WALKER.

HAVING TAKEN HIS FIRST
LESSON IN FLYING.



PHOTO BY W. O. EMERSON.

ABOUT EIGHT DAYS OLD.

YOUNG SPARROW HAWKS.

FAMILY FALCONIDÆ.—FALCONS, ETC.

SUBGENUS RHYNCHODON.

[356-A]. *Falco peregrinus anatum* (Bonaparte). Duck Hawk.

[Bullet Hawk].

RANGE.—North and South America. Breeds locally (except in northwest Coast region) from Norton Sound, Alaska, northern Mackenzie, Boothia Peninsula, and western central Greenland, south to central Lower California, Arizona, southwestern Texas, Kansas, Missouri, Indiana, Pennsylvania, and Connecticut (in mountains to South Carolina); winters from southern British Columbia, Colorado, and New Jersey (occasionally further north) to the West Indies and Panama, occurs also in southern South America.

These birds migrate sparingly through Tidewater Virginia during early October, though one bird at least has wintered in the vicinity of Washington, where it fed on the pigeons around the Government buildings, until shot. Years ago it was quite common on our coast, and was reported to have bred in the vicinity of Harpers Ferry.* I have noted only a single bird, April 20th, in Tidewater Virginia, while Professor Smyth reports a single bird also in October. It does, though, breed in our mountains, depositing its eggs in a slight hollow of a crevice in the face of a cliff. They usually lay four eggs, the ground a handsome buff, heavily spotted and blotched with rich

*Rives' Catalogue of the Birds of the Virginias, p. 62, No. 131.

chestnut and reddish-brown over the entire surface. Size of eggs, 2.10x1.62. Fresh eggs May 2nd. In California, where these handsome eggs are prized most highly, and are quite plentiful, so desirable are they that the boys color hens' eggs and put in the nest, after taking single eggs, thus eliminating the possible chance of the birds deserting before a full set is complete. They are one of the most rapid birds on the wing, their food consisting of birds and smaller mammals almost entirely. They rear but a single brood a season, but will if molested lay two or three settings more. I found no evidence of their breeding in the near vicinity of Bald Knob Mountain, Giles County, but the cliffs on Big Mountain and other similar localities along the Alleghenian range is their natural habitat.

SUBGENUS CERCHNEIS.

[360]. *Falco sparverius sparverius* (Linnæus).
Sparrow Hawk.

[Little Chicken Hawk].

RANGE.—North America east of the Rocky Mountains. Breeds from the Upper Yukon, northwestern Mackenzie, southern Keewatin, and Newfoundland south to Texas and the eastern Gulf States (except Florida); winters from Kansas, Indiana, Ohio, and Massachusetts south through eastern Mexico to Costa Rica.

This little fellow is one of the smallest birds of prey we have. A few remain throughout the entire year, the majority migrating further south in the fall about September 20th, and returning in the early spring about April 5th, at which time their numbers being so

increased we notice the damage done to birds and young chickens. The average person, though, confounds this bird with the Sharp-shinned Hawk, and the Sparrow Hawk gets much credit for damage done by it. In fact, the Sparrow Hawk gets entirely too much credit for harm done by the Sharp-shinned, as he seldom touches birds or small chickens unless there is a scarcity of his regular food. Small mammals, especially mice, crickets, grasshoppers, beetles, lizards, and small snakes, form its principal diet. We first become acquainted with the Sparrow Hawk as he sits on the telegraph wire or post, as we ride along our country road. As we approach he darts downward and moves on a pole or two, this performance going on for sometimes half a mile or more. He is looking down on the ground beneath for his food; usually a goodly patch of briars, bushes and weeds, line the roadside under the wires, and in this jungle he intently watches the various forms of life. The last week in April finds these birds hunting a nesting site in the shape of a natural hollow in some live tree, or a flicker's hole in a dead tree. No nesting material is used; a few chips on the bottom of a cavity are sometimes found. May 1st to 15th finds fresh eggs, four to five in number, a light cream ground color, spotted, blotched and specked with several shades of brown. The height of nesting cavity depends on the tree; from twenty-five to sixty feet up is a general average. Unfortunately, we still have the Hawk and Owl Scalp Bounty Law in many of our counties yet, and this most useful little Sparrow Hawk is becoming a scarce article, I regret to say. The little damage done to fall- and spring-hatched chicks, when they can not then procure their regular food, is far outclassed by the good they do destroying obnoxious mammals, insects, beetles, etc., and they should be protected fully. They rear but a single brood a season.



PHOTO BY THE AUTHOR.

OSPREY'S NEST IN DEAD PINE TREE.

SMITH'S ISLAND.

FAMILY PANDIONIDÆ.

GENUS PANDION.

[364]. *Pandion haliaëtus carolinensis* (Gmelin).
Osprey.

[Fish Hawk].

RANGE.—North and South America. Breeds from northwestern Alaska, northwestern Mackenzie, central Keewatin, southern Ungava, and Newfoundland south to Lower California, western Mexico, and the Gulf Coast; winters from the southern United States through Lower California and Mexico to the West Indies and Central America; occurs also in South America south to Peru and Paraguay.

I have often heard men say they preferred such and such a bird's flight to any other. If I should give my preference it would be the Osprey, I think. For an all-round bird it has no equal, and when it comes down to defending its young, I know of nothing I fear more, unless it is a rattlesnake, than this powerful bird striking me in the downward swoop over the nest. Many a time has it been nip and tuck between us whether or not I should look over the rim of the nest, and quick, indeed, one must be to accomplish this, especially if the young are half grown, or older. A beautiful sight, indeed, it is to watch one of these birds returning shoreward with a fish, only to be set upon by a Bald Eagle. Higher and higher the Osprey mounts with rapid wing beats and small circles, screaming all the while; the eagle closely following, until

sometimes they are lost to view in the clouds. At other times I have seen the eagle get the advantage by being above the Osprey; in such cases the Osprey makes for his chosen dead trees, where he usually perches when devouring his catch, or for the nest. In these cases, however, the Osprey generally loses, for the eagle, with his slow but powerful wing beats, soon overtakes the smaller bird, whom it swoops down to strike, and the Osprey loosens its prey, generally to be caught by the eagle before it reaches the ground. I watched a flight like this last summer, only the eagle missed the fish when dropped, and descended and lit in my orchard, where it devoured the fish before rising. As practically all the fish they catch are worthless for food, bunkers and other school fish, the fishermen do not molest them, and they seem to be on the steady increase. Practically all their food is live fish; their arrival, about March 7th, denoting also the arrival of large schools of fish in the river. The old birds return to the old nest year after year, driving off the young the next spring to seek a situation and build a home of their own. Very often these young birds are wanting in household building, and twice lately have they secured deserted Bald Eagle nests, not far distant from my home. The nest is a huge affair of sticks, corn stalks and rubbish of all sorts, with seaweed on the inner surface of the depression. The eggs number two to three, rarely four, and have a dark cream ground color, generally highly colored by blotches and spots of reddish-brown or chestnut. Size, 2.40x1.80. Fresh eggs May 1st to 10th. The nest is usually placed in the top of a very large and tall dead pine; often a large live one is selected if dead ones be scarce. In years gone by they have been known to make nests on the high sand dunes on some of the islands off

our coast, but I know of no such a record of late years. The height of nests varies from forty to seventy feet above ground. Some nests I have had the pleasure of looking into would, when lying across the inner surface, just show my feet sticking over the rim. From the numerous local pairs which I have had ample opportunity to watch at all times of the day, I consider the Osprey one of our most interesting breeding birds. They raise but a single brood each season. On May 4th, 1911, I took a set of five eggs from a nest of this species, the largest ever taken up to that date. This record set came from Northampton County, and that year the sets in general were larger than usual and more highly colored; this I attribute to the great amount of fish that season.



PHOTO BY W. O. EMERSON.

ABOUT TWO WEEKS OLD.



PHOTO BY T. H. JACKSON.

ABOUT TEN WEEKS OLD.

YOUNG BARN OWLS.

FAMILY ALUCONIDÆ.—BARN OWLS.

GENUS ALUCO.

[365]. *Aluco pratincola* (Bonaparte). *Barn Owl*.

[Monkey-faced Owl].

RANGE.—North America. Breeds in Upper and Lower Austral zones from northern Sacramento Valley, California, Colorado, Nebraska, Illinois, Indiana, Ohio, and western New York south to the Gulf States and southern Mexico, and casually to Oregon, Minnesota, Michigan, Ontario, Vermont and Massachusetts.

Although I have lived in this State over twenty years, it was not until 1911 that I heard of the Barn Owl actually breeding within Tidewater, though there are many suitable places where they should breed. The following data is taken from sets taken elsewhere, and now in the H. H. Bailey collection. Eggs deposited on bits of soft wood in cavity in large trees, or in the barn loft under window on hay, or in a pigeon cote, deserted second story of building, etc. The eggs number four to six, pure white. Size, 1.70x1.30. The breeding time further inland is for fresh eggs, the last week in March till April 15th. I have seen nests of these birds with young, from fully feathered birds almost down to newly hatched young of three or four days' age. Unlike most birds, they commence incubating as soon as the first egg is laid, generally a number of days intervening between the depositing of eggs. They are one of our most beneficial birds, their food consisting almost wholly of rats,

mice, and other small mammals, and very seldom a bird of any sort. Let the farmer look to this bird as a friend indeed around the premises. On the eighth of December, 1911, I had sent me a fine specimen of the Barn Owl, taken by a friend near a large barn where I have since learned they have bred for a number of years. I visited this barn this season, 1912, and discovered they had been broken up and had not been seen around again. One brood a season is all that is raised with us. They are non-migratory, and remain in the near vicinity of their nesting site. Major Bendire, in his monumental work, states that "the noxious vermin required by a pair of these owls to feed their family, usually consisting of from five to seven young, is almost incredible, and I am certain exceeds the captures of a dozen cats for the same period." A pair of these owls have bred for years in the old church tower on Jamestown Island, and are also common in the "Valley."



PHOTO BY T. H. JACKSON.

TWO EGGS, AND TWO YOUNG JUST HATCHED OF THE LONG-EARED OWL. AN OLD NEST OF THE CROW UTILIZED.

FAMILY STRIGIDÆ.—HORNED OWLS,
ETC.

GENUS ASIO.

[366]. *Asio wilsonianus* (Lesson). *Long-eared Owl*.

RANGE.—Temperate North America. Breeds from central British Columbia, southern Mackenzie, southern Keewatin, southern Quebec, and Newfoundland south to southern California, northern Texas, Arkansas, and Virginia; winters from southern Canada to Georgia, Louisiana, and central Mexico.

While this owl is quite common further inland, I have still thought to positively identify a nest with either eggs or young taken close to the seacoast. I am quite confident, though, they breed along the coast, and hope soon to verify my statement. The following data is taken from sets taken elsewhere, and now in the H. H. Bailey collection. Nest, an old crow, squirrel, or hawk's nest, various heights, from twenty to forty feet above ground. Eggs, pure white. Size, 1.55x1.35, three to five in number. Fresh eggs (this locality) March 25th to April 5th. Their food consists chiefly of small mammals, such as mice, shrews and moles, beetles, and occasionally a small bird or two. The good they do destroying small mammals offsets nearly one hundred to one the harm done small birds, therefore, the farmer and gunner should afford him the best of protection. They rear but a single brood a season, and are nocturnal in habits, so are seldom seen by the public. They remain throughout the year, unless the winter be extremely severe. They breed rather abundantly in the "Valley," and sparingly in the higher mountains.



PHOTO BY T. H. JACKSON.

ABOUT THREE WEEKS OLD.

LONG-EARED OWLS.



PHOTOS BY C. S. SHARP.

NEST WITH EGGS, AND YOUNG OF THE SHORT-EARED OWL.

[367]. *Asio flammeus* (Pontoppidan). Short-eared Owl.

RANGE.—Nearly cosmopolitan. In North America breeds irregularly and locally from northern Alaska and Aleutian Islands, northern Mackenzie, northern Ungava, and Greenland south to California, Colorado, southern Kansas, Missouri, northern Indiana and Massachusetts; winters from California, Wyoming, Minnesota, Indiana, Ohio, and Massachusetts south to Louisiana, Cuba, and Guatemala; common in Hawaii.

A resident bird the year round. It was on one of my trips to the islands off the coast, Fisherman's Island or Linnen Bar, May 27th, 1902, that I first startled a Short-eared Owl from the long salt marsh grass, and although I spent some time trying to prove they had eggs there, I was unable to find the nest, though the bird's actions clearly denoted a residence near-by. There is one or probably more pair on each of the islands from Cape Charles northward that are regular breeders there, while they undoubtedly breed in the marshes of Back Bay and Currituck Sound. The eggs are white, unmarked, four to six in number, and measure 1.55x1.25. Fresh eggs May 5th to 20th. The nest is placed on the ground in or near some marshy place, either in the long marsh grass or under some bush, composed of weed stems, grass and sticks, lined with fine grass and feathers. Their food consists chiefly of small mammals, such as mice (several varieties), shrews, small rabbits, sparrows (several varieties), juncos, blackbirds and insects. Quoting the Department of Agriculture, "Hawks and Owls of the United States," page 149: "Of 101 stomachs examined, eleven contained small birds; seventy-seven mice; seven



PHOTO BY W. O. EMERSON.

A VETERAN ORNITHOLOGIST AND HIS FAMILY.

other mammals; seven insects, and fourteen empty." They are, therefore, classed as a most beneficial bird. They are not nocturnal in habits, doing their hunting by day as well as night. Only one brood a season. They are found principally on or near the salt marshes of the lower rivers emptying into the Chesapeake Bay, the island marshes of the Eastern Shore, Back Bay, and Currituck Sound.

GENUS STRIX.

[368]. *Strix varia varia* (Barton). Barred Owl.

[Hoot Owl].

RANGE.—Eastern North America. Breeds from southern Keewatin, southern Quebec, and Newfoundland south to eastern Kansas and Georgia, and west to eastern Wyoming and eastern Colorado.

This medium-sized owl is quite a common species with us, more so as we go inland. It also remains throughout the winter, being non-migratory, and seldom stays far from its hunting ground or home, each pair seemingly to have a stated hunting area to cover as their own. As with the other birds of prey, they are shot on sight by all farmers and sportsmen, who erroneously think they do more damage than good, destroying poultry and game. They are more common in heavy timber than elsewhere, and, as our tracts of big timber are rapidly being cut off, these birds will move farther and farther from the coast. It has been well proven, particularly by examination of the contents of stomachs of the owl by the Department of Agriculture in Washington, D. C., that these birds are

more beneficial than harmful. Their food consists chiefly of mice (various species), squirrels, flying and gray, young rabbits and reptiles (frogs, lizards, small snakes), besides many insects. They nest either in natural cavities of trees or in some deserted crow's nest; the eggs from three to four in number. Size, 1.95x1.65, are a dullish-white, unmarked. Fresh eggs March 20th to April 15th. Only one brood a season. They are quite abundant in the Alleghenian Mountains.



PHOTO BY VERDI BURTCH.

BLIND IN MARSH, USED FOR PHOTOGRAPHING BIRDS.

HYPOTHETICAL.

GENUS CRYPTOGLAUX.

[372].—*Cryptoglaux acadica acadica* (Gmelin). Saw-whet Owl.

RANGE.—North America. Breeds from central and eastern British Columbia, Alberta, Manitoba, Quebec, New Brunswick, and Nova Scotia south to central Arizona, New Mexico, southern Nebraska, northern Indiana, Pennsylvania, Maryland (and Virginia?); winters south to southern California, Louisiana, Virginia (casually to the Carolinas), and Maine; casual or accidental in Mexico and Guatemala.

As yet I have no positive evidence of this species breeding within our area. Rives, in his "A Catalogue of the Birds of the Virginias," page 63, No. 139, quotes Captain C. H. Crumb as saying, "they breed on the mainland," meaning the Cape Charles Peninsula. I know of no positive evidence of nest with eggs or young having been found within our area.

GENUS OTUS.

[373].—*Otus asio asio* (Linnæus). Screech Owl.

RANGE.—Eastern North America from Minnesota, Ontario, and New Brunswick south to northeastern Texas and Georgia, and west to about the 100th meridian; accidental in England.



PHOTO BY T. H. JACKSON.

FOUR WEEKS OLD.
YOUNG SCREECH OWLS.

This little fellow remains the year round with us, and is quite common over our whole area. Both winter and summer nights, if clear, one may generally hear one of these owls calling or whistling their mournful notes from a near-by grove, or around the farm outbuildings. Low down on the eaves of the buildings they often sit, silently awaiting the appearance of a young rat or mouse, pouncing upon it and returning to their perch without stopping, and devouring it at their leisure. Undoubtedly they do a great deal of good, preying on the field mice, moles, small reptiles, insects, and various other species of small mammals, all of which are procured at night. On the other hand, they catch and destroy numbers of small birds, such as juncos, sparrows, bluebirds, and wrens, but the harm they do along this line is far overbalanced by the good they do destroying insects and obnoxious small mammals. One winter evening (1911), one of these birds kept calling from a tree near my barn, and wishing a skin for school study work, I took my gun and went out to gather him in. I soon returned, however, without him, for I found him so intently watching a rat hole from the lower eaves of my barn that I hadn't the heart to kill him. Other plans than mine are made, however, for the next morning, upon opening up the chicken houses, I found my little Screech Owl lying dead before a rat hole, and upon skinning him I found a slight blood clot in the front of the skull, evidence enough, I thought, to show he had hit the building in full flight, so intent must he have been after his prey. Both phases, the gray and the rufous, are found with us, the color being no distinction of sex, season or age. They nest in natural cavities, or deserted flicker holes usually, sometimes buildings; the average height being about ten feet above ground. The only nesting material used are some few feathers or bits of fur from



PHOTOS BY CHAS. R. KEES.

YOUNG GREAT-HORNED OWLS.

the birds and mammals devoured. The eggs number from four to six, dull white, unmarked. Size, 1.35x1.20. Fresh eggs April 9th to 20th. But a single brood is raised each season.

GENUS BUBO.

[375]. *Bubo virginianus virginianus* (Gmelin). *Great Horned Owl*.

[Hoot Owl].

RANGE.—Eastern North America from Ontario, Quebec, New Brunswick, and Newfoundland south to the Gulf Coast and Florida, west to Wisconsin, eastern Minnesota, Iowa and eastern Texas.

The local residents make no distinction between this species and the Barred Owl, calling both by the name of "Hoot Owl." This owl, and the little Screech Owl, are probably better known to the public in general than any of the others. He is not an abundant species with us, though occasionally heard during the early part of the night. They remain throughout the winter with us, feeding upon rabbits, muskrats, opossums and small mammals, such as rats and mice, sometimes a large amount of poultry, pigeons and insects. In some sections they do more harm than good, and vice versa, so until some one in this section actually shows by examination of stomachs that they do more harm than good, I must urge they be protected. They nest in hollow trees or a deserted crow's or hawk's nest. Fresh eggs the last week in January till the middle of February, pure white. Size, 2.25x1.85. From two to three eggs are generally laid. As the large

tracts of timber are now nearly all cut off from this section, we will see less and less of this noble bird as the years go by. These birds are nocturnal in habits, procuring all their food during the night. During the season of 1910, a dark, wet night, I heard a terrible squawking coming from one of my laying boxes in a chicken yard. Knowing the box contained a sitting hen, I hastily slipped on rubber boots, and in my night clothes hurried from the house with gun in hand. Just before reaching the laying box I saw a shadowy form fly off, but it was too dark to even see to shoot. On opening the box I found the inside littered with feathers, and the hen with practically her entire neck bare, but bleeding only slightly. During my investigations my father saw the Great Horned Owl fly into a shade tree close to his window, he having just poked his head out to see what all the commotion was about. The next morning we found his tracks alongside of the laying box, and showed where he had braced his muddy feet in his efforts to pull the hen from the first nest inside the box. During a trip to Northampton County, May 5th, 1911, a fine male Horned Owl was brought to me alive, the bird having been caught in a steel trap set over the carcass of a guinea hen which he had killed the night before. On Hog Island a pair have nested in the old condemned lighthouse for years, and another pair made their home in the under side of an Osprey's nest. Only one brood a season. On visiting an eagle's nest, February 23, 1913, I found it occupied by a pair of these owls; the nest about 75 feet up, and only about one quarter of a mile from a farm house. The crows, as I watched them, made life a hard one for the owls in the daytime; at night they were master of all they surveyed.

SUBFAMILY COCCYZINÆ.—AMERICAN
CUCKOOS.

GENUS COCCYZUS.

[387]. *Coccyzus americanus americanus* (Linnaeus).
Yellow-billed Cuckoo.

[Rain-Crow].

RANGE.—Parts of North and South America. Breeds mainly in Austral zones, but reaching into Transition from North Dakota, Minnesota, southern Ontario, Quebec, and New Brunswick south to Nuevo Leon, Tamaulipas, Louisiana, and northern Florida, and west to South Dakota, Nebraska, and Oklahoma; migrates through the West Indies and Central America; winters in South America south to Equador, Bolivia, and Argentina.

On a hot, dry summer afternoon these birds seem at their best, if their notes could be called a song. When heard at this time the natives assure one of "rain shortly," though this doesn't always fit the case. In the country they keep to the low bushes or second growth, but when in the small towns and shady-street cities, one sees them and hears them more often in the trees. Their notes, "Cut, cut, cut, cut!" repeated rapidly from ten to twelve times, draws one's attention to them, only to see them fly at the end to some other distant perch, short flights, seemingly unpopular. The nest is a shallow platform affair, loosely put together, of small twigs, and on the inner surface sometimes fine strips of bark or dry leaves. The height from ground varies from two and a half feet in bushes,

to thirty feet up in a tree in town. The eggs are a delicate shade of greenish-blue, unspotted, and number from three to four. Size, 1.20x.90. Fresh eggs May 5th to 20th. Only one brood a season. They arrive about April 25th and depart for the south about October 5th to 10th. Their food consists of caterpillars, worms, butterflies, grasshoppers, numerous insect species, beetles, and wild grapes and berries, thus making them a very beneficial bird from an agricultural standpoint.

[388]. *Coccyzus-erythrophthalmus* (Wilson). *Black-billed Cuckoo*.

RANGE.—North and South America. Breeds mainly in the Transition zone from southeastern Alberta, southern Manitoba, southern Quebec, and Prince Edward Island south to Kansas, Arkansas, North Carolina, and mountains of Georgia; winters in South America from Colombia to Peru.

This species of cuckoo I have not found breeding in Tidewater Virginia, though a few may possibly breed there, but as we go further inland they become fairly common. Professor Smyth reports it as abundant at Blacksburg, where it arrives April 26th to May 9th, and my father found it fairly common at Goshen, Massanetta, and Hot Springs, where finding young in the nest in August leads him to believe they rear two broods. It probably migrates southward with the preceding species in the fall. Fresh eggs May 5th to 10th for first setting, which number three to four, a dark greenish-blue, unmarked. Size, 1.08x.84. Both color and size of eggs

make them readily distinguishable from those of the Yellow-billed Cuckoo, while the birds themselves also differ from that species by having a black bill instead of the yellow. The nest is a rude platform of twigs, occasionally a few dry leaves on inner surface, placed from two to ten feet up in a bush or tree, thick clumps of bushes being preferred. Their habits and food are similar to that of the Yellow-billed Cuckoo, though they are reported as having laid eggs in other birds' nests, though this condition has never come under my personal notice during all the years of my field work.

FAMILY ALCEDINIDÆ.—KINGFISHERS.

GENUS CERYLE.

[390]. *Ceryle alcyon* (Linnæus). *Belted Kingfisher*.

[Kingfisher].

RANGE.—North America and northern South America. Breeds from northwestern Alaska, northwestern Mackenzie, central Keewatin, northern Quebec, and Newfoundland south to the southern border of the United States; winters from British Columbia, Nebraska, Illinois, Indiana, Ohio, and southeastern Virginia south to the West Indies, Colombia, and Guiana, and irregularly as far north as Massachusetts, New Hampshire and Ontario.

Along all our rivers, ponds and streams we find this bird, a few remaining throughout the winter, and numbers migrating. These migratory birds arrive the last week in March and they at once set to work to dig out with their sharp beaks, pushing the dirt out behind them with their feet, their burrow or hole in the bank selected. They often clean out and extend a foot or more the burrow of last season, should the bank still happen to have not caved away. In these cases where the old burrow is used, the laying of eggs commences earlier in the season than those digging an entirely new hole, from a week to ten days difference. Eggs are not deposited until some time after the burrow is completed. Fresh eggs from April 25th to May 10th. The burrow is enlarged at the inner end, spherical, and a few small fish scales and bones are

all the nesting material used under the eggs, which number from five to seven. Size, 1.35x1.05. The eggs are a delicate shade of pinkish-white before being blown, after which, in their crystal whiteness, the water lines or marks can be easily distinguished. The burrows measure from four to eight feet in length, and their height in the bank varies from eight inches below the top, down to two feet above water, according to location and formation of bank, height of water in stream, etc. They are a noisy bird, especially in flight from perch to perch, where they sit motionless in watch for small fish in the water below. Their cry or rattle is not unlike the wooden rattles used in the cities on election night, Christmas, and New Year's Eve. Mortality among these birds (see Auk., Vol. 24, No. 4, page 439) must be great some years, as the black snakes destroy many eggs and often kill on the nest the parent birds. Only one brood a season is raised. Their food in this section consists almost wholly of small fish, and insect life off the water. Unless the season be very forward, the birds migrating southward seldom leave before December first.

FAMILY PICIDÆ.—WOODPECKERS.

GENUS DRYOBATES.

[393-B]. *Dryobates villosus auduboni* (Swainson).
Southern Hairy Woodpecker.

RANGE.—Austro-riparian zone of the South Atlantic and Gulf States from southeastern Missouri, southern Illinois, and southern Virginia to southeastern Texas.

While not quite as common a breeding species as the flicker, still they are evenly distributed over the Tidewater section, and remain throughout the winter. Dead stubs of gum and poplar treetops seem to be their favorite location for a nesting site, varying from 25 to 60 feet up, the cavity from eight to twelve inches deep. They are one of our earliest breeding birds, the drilling of the nesting cavity beginning the last week in March, and by April 10th to 15th finds a full complement or set of eggs, numbering from four to six. Like all the woodpeckers', the eggs are glossy white. Size, .95x.70. They are noisy birds when having young, and do not mind close inspection of their home at that time, but when only eggs are in the cavity, it is almost impossible to flush the sitting female until within a few feet of the hole. Occasionally two broods a season, but not commonly. Some years this species is quite numerous, while other seasons they are very scarce, these conditions being caused by the food supply, I imagine. Their food consists of larvæ, grubs, beetles, ants and spiders, procured from dead wood generally. They are considered to be a very beneficial species of woodpecker. In the Alleghenian zone a few of the northern form (*D-villosus*) are found above 3,800 feet.

[394]. *Dryobates pubescens pubescens* (Linnæus).
Southern Downy Woodpecker.

RANGE.—Austroriparian zone of South Atlantic and Gulf States from southeastern Virginia to eastern Texas.

This little woodpecker, the smallest of the family, is rather a rare breeding bird with us, possibly because their favorite haunts, old apple trees, are not abundant throughout Tidewater. When a suitable locality is found, though, we find him a very sociable little fellow, more so than any of the balance of the family. A natural cavity in a live tree is generally selected from five to fifteen feet up, the eggs deposited on a few chips from borings inside. Three to five eggs are laid, glossy white. Size, .75x.60. They remain throughout the winter, securing the greater part of their food from the hardwood trees. Fresh eggs April 10th to 25th; one brood a season. As they are seen mostly when in orchards, many attribute the borings in the bark of the trees to these birds, these borings or holes often resulting in much injury to the tree. This is a mistake, however, for this injurious work is done by another of the family, the Yellow-bellied Sapsucker (*Sphyrapicus varius varius*), during the fall and spring migrations and winter months, as it does not breed in Tidewater. On account of the scarcity of old orchards in this section, the birds select hard dead stubs of the poplar, dogwood, maple, and oak trees, often forty feet above ground. The cavity is most neatly executed, selected just under some overhanging limb or knot, thus affording protection from the water running down from above. The bottom of the cavity is from eight to twelve inches below the entrance. They are noisy birds after the young are hatched, and their abode is then easily located. They



RED-COCKADED WOODPECKER

should be protected, for they do much good by destroying great quantities of insects, caterpillars, beetles, and their eggs and larvæ. They are more sociable than the Hairy Woodpecker, and I have had a pair on my farm build in a maple tree within fifteen feet of my back door.

[394-C]. *Dryobates pubescens medianus* (Swainson).
Downy Woodpecker.

RANGE.—Canadian and Transition zones of northern and central parts of eastern North America from southeastern Alberta, Manitoba and southern Ungava south to eastern Nebraska, Kansas, and Potomac Valley, and in mountains to North Carolina.

This bird takes the place of the preceding species in our interior, their range overlapping near the dividing line of Tidewater Virginia, and extending westward. Professor Smyth records it as a resident the year round at Blacksburg, where it breeds commonly; the earliest set of eggs April 24th. My father also found it common at Goshen and Massanetta, where it raised two broods. The notes on the former species will apply equally as well to this form. I found it very abundant in the higher Alleghenies at an altitude of 4,000 feet, and over.

[395]. *Dryobates borealis* (Vieillot). *Red-cockaded*
Woodpecker.

RANGE.—Austroriparian zone of the South Atlantic and Gulf States north to southern Virginia, Tennessee, and southern Missouri, and casually to New Jersey.

In 1911 my attention was called to this bird breeding in our section by J. E. Gould, of Berkley, who informed me that while visiting an eagle's nest the latter part of March, he had seen a pair of Hairy Woodpeckers at work excavating a nesting cavity in a live pine tree, some sixty feet up. I told him I thought he would find them to be Red-cockaded variety, and he now states them to be such. They had evidently been breeding in the same tree for two or three years previous, as old cavities could be clearly distinguished. On visiting the tree again on April 19th, 1912, they were seen feeding young. The 1910 A. O. U. Check List gives their range in Virginia as "southwestern Virginia." These birds were breeding in Norfolk County, or southeastern Virginia. Quoting Mr. A. T. Wayne's "Birds of South Carolina," he states: "The birds seem to know by instinct when the center of the tree is rotten, or has what the lumberman calls 'Black-heart,' and never make a mistake in selecting a tree. The hole is bored through the solid wood, generally a little upward, to the center of the tree (which is always rotten), then downward to the depth of from nine inches to a foot or more. This species lays from two to five very glossy white eggs, generally three, rarely four, while five is exceptional. I have taken five eggs but once, May 14th, 1902. The earliest set taken was on April 27th, 1884. The eggs average .95x.70 in size; only one brood a season." In this section the eggs are laid about the first of April. The birds sometimes occupy the same cavity two or more consecutive seasons. They are not injurious to agriculturists, as their food is similar to that of the preceding species. I found them breeding in Giles County, 1913, altitude 4,000 feet.

GENUS SPHYRAPICUS.

[402]. *Sphyrapicus varius varius* (Linnæus). *Yellow-bellied Sapsucker*.

RANGE.—Eastern North America. Breeds in Canadian and upper part of Alleghenian zone from southwestern Mackenzie, central Keewatin, central Quebec, and Cape Breton Island south to central Alberta, northern Missouri, northern Indiana, northern Ohio, North Carolina (mountains), and Massachusetts (mountains of northern Berkshire County); winters from Pennsylvania and Ohio Valley (casually further north) to the Gulf Coast, Bahamas, Cuba, western Mexico (Jalisco), and Costa Rica; casual in Wyoming.

This bird is more numerous during March and November, when many migrate north and south of us. Many do, however, remain throughout the winter, feeding in the heavy timber, and some remain to breed in our higher mountains. Professor Smyth records them as arriving in Blacksburg March 25th to April 17th, and also common again during October. This is the bird we find in our orchards, girdling the fruit trees with holes made by its sharp beak, in search of the sap, that of the apple tree in particular, of which they are very fond. Unlike the other woodpeckers, their food consists of only a very small percentage of insect life, though ants are taken to some extent. Besides the fruit trees, they injure and disfigure ornamental and shade trees, while the forest timber also suffers considerably from their depredations. The U. S. Department of Agriculture states that "Sapsuckers are known to attack no fewer than 258 kinds of trees,

shrubs and vines in the United States, 63 of which are seriously injured and 32 have been killed." We, therefore, can easily see the great amount of damage which these birds do each year. We must not, however, lay any of the blame on the other species of woodpeckers found within our State, as they are really beneficial birds. The nest is generally located in a hardwood dead tree or tree top stub, the hole being drilled by the birds early in April, and by May 1st fresh eggs may be found, four to five in number, glossy-white, unmarked. Size, .86x.62. Only one brood a season. These birds may be easily distinguished from our other woodpeckers by their brilliant red crown and throat, breast patch black, and yellow belly. I found them fairly common at Mountain Lake, 4,500 feet altitude.

GENUS PHLÆOTOMUS.

[405]. *Phlæotomus pileatus pileatus* (Linnæus).
Pileated Woodpecker.

[Log Cock].

RANGE.—Austro-riparian forests of southern United States from southeastern Virginia south and west to middle Texas and western Oklahoma; casual in the Bahamas.

This is rather a rare resident species with us, though many can be seen during the spring and fall migrations in company with the flickers. These migrating birds are the sub-species (*Pileatus abieticola*) or northern form. The heavy drumming with their beak on a dead tree can be heard for a mile away on a still day, the woods fairly

reëchoing with this powerful and rapid noise. Extra large dead pines, or poplars with dead tops, are usually selected for a home, generally in close proximity to water. The nest cavity is rather pretentious, and always as high from the ground as possible, sometimes seventy feet or more up. Four to five eggs are laid, glossy white. Size, 1.30x1.00. Fresh eggs first week in May. It is not improbable that both forms of the Pileated Woodpecker overlap their breeding ranges in Tidewater. It is a bird of the heavy timber, and as our big tracts are now few and far between, we see less of them each year. Their food consists chiefly of ants and beetles, obtained from the under side of the bark and trunk of dead trees, the birds being experts in detaching the bark from the trunks.

GENUS MELANERPES.

[406]. *Melanerpes erythrocephalus* (Linnæus). *Red-headed Woodpecker*.

RANGE.—Transition and Austral zones from southeastern British Columbia, southern Alberta, Manitoba, and Ontario south to the Gulf Coast, and from central Montana, central Colorado, and central Texas east to valleys of the Hudson and Delaware; rare and local in New England; casual in Arizona, New Mexico, Utah, Nova Scotia, and New Brunswick; irregularly migratory in the northern parts of its range.

While not so common as the Flicker or Downy, this handsome woodpecker is not rare with us, and remains the year round. It usually selects some tall, dead pine tree from which the bark has become detached, and after trial holes to the number of three or four are



PHOTO BY C. F. STONE.

CLIMBING FOR A RED-BELLIED WOODPECKER'S NEST.

NOTE THE NEST OF THE RED-SHOULDERED HAWK CLOSE TO THE TRUNK
OF LARGEST TREE, AT CENTRE OF THE PICTURE.

bored, selects its final abode near the top, sometimes sixty feet up. As these trees are also the favorite abode of the flying-squirrel (*Sciuropterus volucella*), this may account for the number of holes bored by these birds. I am confident many nice sets of eggs are eaten by the squirrels, and possibly young as well. As a boy, my first experience with these birds was in a dead pine not far from town. The nesting cavity was not less than fifty feet up, and after nailing strips of wood up the tree so as to reach it easily, found only one egg deposited when first visited, so I waited further duties. After several visits, the last time finding only five eggs had been laid, I decided to take them the next day, and bring a gun along for the birds as well. Imagine my disgust on climbing the tree the following day to put my hand on a flying-squirrel and have my finger quickly bitten. It is needless to say the flying-squirrel was collected, and I returned wiser in facts as to the woodpecker's fight for existence. Four to six eggs is a complete set, a dullish, glossy white. Size. 1.00x.75. Only one brood a season. Fresh eggs May 25th to June 15th. Their food is similar to that of the other smaller woodpeckers, with the addition of berries, and sometimes fruit. Numerous ornithologists have seen this species destroy the eggs and young of other cavity-nesting species, but as yet I have not come across a pair of these birds which were cannibals.

GENUS CENTURUS.

[409]. *Centurus carolinus* (Linnæus). *Red-bellied Woodpecker.*

RANGE.—Upper and Lower Austral zones of eastern United States from southeastern South Dakota, south-



PHOTO BY THE AUTHOR.

HOME OF THE FLICKER.

eastern Minnesota, southwestern Ontario, western New York, southwestern Pennsylvania, and Delaware south to central Texas and the Gulf Coast; casual north to Colorado and Massachusetts.

While these birds are not a rare winter visitor in Tidewater, I have yet to find positive evidence of their breeding within that area. They are a bird of the thicker timber regions and the activity in the lumber business throughout our section has undoubtedly had much to do with their scarcity, like that of the Pileated Woodpecker. The region between the south bank of the James River and the southern state line is their natural habitat. Their food is similar to that of the Downy and Hairy Woodpeckers, though their nesting cavity is usually placed much higher than those species. Four to five eggs is a full set, a glossy white, unmarked. Size, 1.02x.76. Fresh eggs May 1st to 10th. Only one brood a season. I have found them particularly common in February in the hardwood timber tracts left by the lumbermen, after cutting the pines. They breed sparingly in the central and western part of our State.

GENUS COLAPTES.

[412]. *Colaptes auratus auratus* (Linnæus). *Flicker*.

[Yarup. High-Hole. Pigeon Woodpecker. Yellow-Hammer. Golden-winged Woodpecker].

RANGE.—Austro-riparian zone of South Atlantic and Gulf States from southeastern Virginia and southern Illinois to southern Florida and central Texas.

This is one of our most common birds, remaining the year round, and being joined in the winter with the northern form (*Colaptes auratus luteus*), they become so numerous that many are shot for game, especially during the early fall migration. While at its height, about October 1st, they are particularly fond of the blue berry of the black-gum tree, and after once finding a tree with fruit, will continue to come to it until every berry is gone, even though continually shot at. I remember a case a few years back, when a local gunner killed fifty-seven flickers from one black-gum tree in one forenoon. After the gumberries are gone, they take to the dogwood berry for their main article of food, a fine red berry and always plentiful in Tidewater. During early spring and fall migrations they may be noticed in large numbers in the cornfields and pastures, where their chief article of food is ants. The northward migration at its height reaches us about March 15th, when the woods and fields fairly teem with this handsome bird. For a home or nesting site it selects generally a dead tree, or rotten stub of some live one, in which it drills a hole with its sharp beak. The cavity may be from ten to sixty feet up, about ten to fourteen inches deep, in which is deposited on some small chips, from four to seven glossy white eggs. Size, 1.10x .90. Fresh eggs from May 1st till the 20th may be found, occasionally a second brood. The northern form (*Luteus*) overlaps its breeding range within our area. Its food is similar to that of the other woodpeckers, with the addition of the black-gum, dogwood, and sassafras berries. As a whole they do a great deal of good, and I hope to see them fully protected in our State ere long.

[412-A]. *Colaptes auratus luteus*. (Bangs). *Northern Flicker*.

RANGE.—Northern and eastern North America. Breeds from tree limit in northwestern Alaska, northwestern Mackenzie, central Keewatin, southern Ungava, and Newfoundland south, east of the Rocky Mountains, to northern edges of Austroriparian zone, occasionally on Pacific slope from California northward; accidental in Greenland; migratory through most of Canada but more or less a regular resident within the United States, except the extreme northern parts; south in winter to the Gulf Coast and southern Texas.

This is a sub-species of the former bird, the description of which, together with the local names, habits, food, etc., apply equally as well to this form. The Northern Flicker is supposed to be somewhat larger than the southern form. As it would take a specialist in speciation or a series of skins to separate these two forms of flicker, the average would-be bird student will not be led far astray by calling both forms, which overlap in our area, Flicker. Skins taken in the western part of this State are of this variety.

FAMILY CAPRIMULGIDÆ.—GOAT-SUCKERS.

GENUS ANTROSTOMUS.

[416]. *Antrostomus carolinensis* (Gmelin). *Chuck-will's-widow*.

RANGE.—Southern North America and northern South America. Breeds in Austroriparian zone from Missouri, Indiana, southern Ohio, and southern Virginia south to central Texas and Gulf States; casual in Kansas and Maryland; accidental in Massachusetts and Ontario; migrates through eastern Mexico; winters from southern Florida to Greater Antilles, Central America, and Colombia.

This nocturnal bird is rather abundant along the northern bank of the James River, practically its northern limit of breeding range (see Auk. XXV, page 478). It does not, however, remain during the winter, arriving about April 14th. Like the following species, it is more often heard than seen, being truly a bird of the night, at which time one may chance to see, if in the country, a shadowy form, like a spectre, pass before his eyes, swiftly and silently pursuing its insect food. Should he be a wood prowler of any sort, it is possible that once in a great while he may flush the female either from her eggs, or a pair of birds from under the sheltering protection of a fallen log in the dense woods. Like the Whip-poor-will, they are great believers in returning to their old nesting site of the previous year. In one instance we took a set of eggs from supposedly the same pair of birds, within



CHUCK-WILL'S-WIDOW

twenty-five feet of the first set, and exactly a year to the day between sets. From the time of their arrival until departure, the last week in October, their cry of "Chuck-will's-widow" vibrates and echoes through the woods, to be answered by another in some distant woods, the call or note generally being repeated twice in succession. On extra warm moonlight nights I have often heard them keep up their call until the break of day, something unusual with other nocturnal birds. They construct no nest; the eggs, two in number, being deposited on the dry leaves or pine needles on the ground. Fresh eggs May 23rd, a glossy, creamy white, thickly clouded with patches and blotches of dark gray, and lighter shades of lilac. Size, 1.40x1.00. August 24th is the latest date on which I have heard them call before migrating southward, their migration flights being made at night. Their food consists of a large variety of winged beetles, moths, ants, and insects which fly by night, at which time they procure all their food. Only one brood a season.

[417]. *Antrostomus vociferus vociferus* (Wilson).
Whip-poor-will.

RANGE.—Eastern North America. Breeds from Manitoba, southern Quebec, New Brunswick, and Nova Scotia south to northern parts of Louisiana, Mississippi, and Georgia, and from eastern North Dakota, Nebraska, and Kansas eastward; winters from the lowlands of South Carolina and the southern parts of the Gulf States to British Honduras and Salvador.

Like the preceding species, the bird derives its vernacular name from its call note or song. In the summer, as

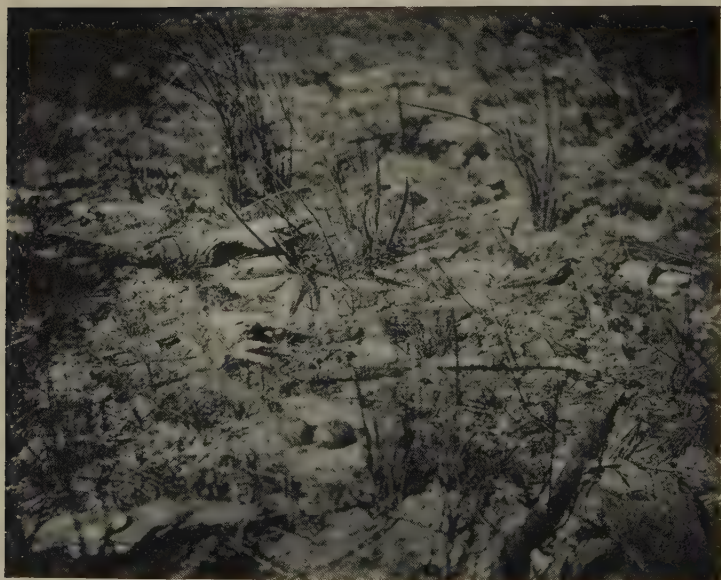


PHOTO BY THE AUTHOR.

EGGS OF THE NIGHTHAWK.

NOTE HOW THEY BLEND WITH THE SURROUNDING VEGETATION.

the shades of evening gather in the woods, this night songster commences his sharp piercing cry of "Whip-poor-will," repeated generally three times without stopping. Across some open field in another piece of woods comes the answering cry, or from the depths of the same piece. The further away, the more pleasing the notes to the ear. Unlike the preceding species, they do not keep it up so late, ten to eleven o'clock finds the woods still except for the cry of the owl or Chuck-will's-widow. These birds do not winter with us, arriving the first week in April and departing about August 23rd to 28th. No nest is made, the eggs being deposited on leaves or pine needles in a slightly open space in thick woods. Fresh eggs May 10th to 20th. Only two eggs are laid, a glossy, grayish-white; blotched, specked and sparingly lined with a pale brown, dark gray, and lilac. Size, 1.50x.85. They are not an abundant bird with us, though not rare; more often heard than seen, as they are hard to flush in the daytime, even when sitting on their eggs. Only one brood a season. Their food is similar to that of the Chuck-will's-widow, most of which is taken while in flight, and at night.

GENUS CHORDEILES.

[420]. *Chordeiles virginianus virginianus* (Gmelin).
Nighthawk.

[Bullbat. Night-Jar. Goatsucker].

RANGE.—North and South America. Breeds from southern Yukon, central Mackenzie, central Kcewatin, northern Quebec, and Newfoundland south to northern parts of Gulf States and west to edge of plains from

Minnesota to northeastern Texas; migrates through the Greater Antilles and Central America; winters in South America from Brazil to Argentina.

The earliest record for the arrival of these birds from their winter home is February 26th, 1910, but this is an exceptional case, the majority arriving by April 16th. One is first attracted to them generally about sundown, as they pass to and fro, tumbling, turning, twisting in all sorts of crazy fashions, pursuing their insect food, all the while uttering a discordant "Queek, queek." The white on the wings makes them easily distinguishable when flying. During most of the day they sit motionless on some log or inclined trunk, or fence rail, eyelids closed, apparently asleep. In this attitude they allow one to nearly touch them, as they also do when covering their eggs, which are laid, generally, on the ground. The two grayish, glossy, white eggs are heavily blotched and spotted with bluish-gray and dark brown. Size, 1.20x.85. No nest is made, the eggs being deposited on the bare ground near a fallen log, stump, fence rail, or drift on our islands off the coast. Years ago, during the fall migration the last week in September, large numbers were shot by local sportsmen, both for the chance to display marksmanship, and for food. The local name of Goatsucker was undoubtedly derived from the belief that they sucked the milk from goats, and sometimes cows, a notion without foundation or fact. Only one brood a season. Fresh eggs May 27th to June 5th. The insect food taken by these birds while on the wing, such as mosquitoes, flies, beetles and moths, should convince the farmer and sportsmen that they are a most beneficial bird, and, therefore, to be protected. When resting they always sit longitudinally on the log, limb or rail.

FAMILY MICROPODIDÆ.—SWIFTS.

SUBFAMILY CHÆTURINÆ.—SPINE-
TAILED SWIFTS.

GENUS CHÆTURA.

[423]. *Chætura pelagica* (Linnæus). *Chimney Swift*.

[Chimney Swallow. Chimney Martin].

RANGE.—Breeds in eastern North America from southeastern Saskatchewan, Manitoba, central Quebec, and Newfoundland south to the Gulf Coast, and west to the Plains from eastern Montana to eastern Texas; winters south of the United States, at least to Vera Cruz and Cozumel Island and probably in Central America; casual in southern Alberta; accidental in New Mexico and Greenland.

Previous to the year 1910, I would have classed this bird with our most common birds, but since that time there seems to have been a great falling off in numbers, the reason for which I can not account. They formerly bred in hollow trees, but since the advent of human dwellings they have taken to the inside of chimneys for suitable places to attach their nest. There are many birds, though, still adhering to their old custom of building in hollow trees, but, like the engine, the chimney has come to stay, as a nesting place for the swifts. Three to four, five rarely, pure white eggs, is a full set; May 27th to June 10th. Size .75x.50. For the benefit of those who wonder how I get nests sometimes ten to fifteen feet down the

chimneys, I will state that a piece of tin turned up about one inch around the edge, like an inverted box cover, is fitted to a garden hoe. On the inside of this cover is glued a layer of cotton, on to which roll any eggs possibly falling from the nest when detaching it from the side, after the hoe is lowered down the chimney and under the nest. The nest is made of dead twigs, snatched or broken off from the extremity of some limb as they fly by, the birds pausing only a second, seemingly, to perform this act. The twigs are glued together by a sticky liquid from the bird's mouth, into a slightly hollowed semi-circular structure, the same sticky substance attaching it to the inside of the chimney. I have noticed that they seldom use a chimney that has a thick coating of soot on the inside, the reason, I presume, being that it tends to fall off in chunks during the summer. Nor do they like new buildings with chimneys without some soot in them. There are many large hollow cypress trees still in the Dismal Swamp where these birds may be found breeding in their natural haunts. Between sundown and twilight during the summer, these birds are seen at their best in small flocks of from three to six in number, sailing together closely one behind the other in large circles, uttering a trilling whistle as though made by their wings. During migration often countless numbers descend for the night like a huge funnel into some large single chimney or group of chimneys. Only one brood is raised with us a season. The height of the fall migration southward is about September 2nd. During the season of 1912 an extra large flock of migrating swifts passed southward as late as October 5th. They do not winter with us, arriving April 7th to 10th. Their food, taken entirely when on the wing, consists wholly of insect matter, many of which are still alive when fed to the young.

FAMILY TROCHILIDÆ.—HUMMING
BIRDS.

GENUS ARCHILOCHUS.

[428]. *Archilochus colubris* (Linnæus). *Ruby-throated Hummingbird*.

RANGE.—Eastern North America. Breeds from southeastern Saskatchewan, central Quebec, and Cape Breton Island south to Gulf Coast and Florida; west to North Dakota, Nebraska, Kansas, and central Texas; winters from middle and southern Florida and Louisiana through southern Mexico and Central America to Panama; casual in Cuba in migration.

As this is the only hummingbird inhabiting our area, there is no danger of any one mistaking it. Even the city resident has a chance to watch and study this bird, for he is a regular visitor to most small gardens containing various kinds of flowers, from which he obtains his food or honey. Sometimes one may even see him poised, seemingly motionless, before a box of flowering plants on some window sill, where the "house beautiful" idea is being carried out. If you will look closer, you will see that his wings are beating with such rapidity that it is almost impossible to see them move unless very near him. I have often tried to decide which of the two, the hummingbird or Blue-gray Gnatcatcher, builds the handsomest nest; sometimes I think one, sometimes the other. Which-ever it may be, however, the hummingbird's nest is a beautifully made affair of plant fiber and down, closely woven and lined with plant down. Being covered with

lichens over the entire surface, and placed on a small limb of a tree generally covered with lichens, it is almost next to impossible to locate it unless one sees the bird fly directly to it. Elms and maples are usually selected in this section, though occasionally other species of trees, such as black walnut, dogwood or gum, are used. The height of nest from the ground varies from fifteen to fifty feet, while the position of the nest on the limb is usually near its extremity. Two pure white eggs is a full set; May 20th to June 15th. Size, .50x.35. They are not an over-abundant bird, though well distributed over our entire section, except islands. They arrive about April 25th, and depart the last week in September. Only one brood a season is reared. Their food consists mostly of the nectar or honey extracted from the numerous varieties of flowers visited by them. I have found them breeding as high as 4,500 feet altitude.

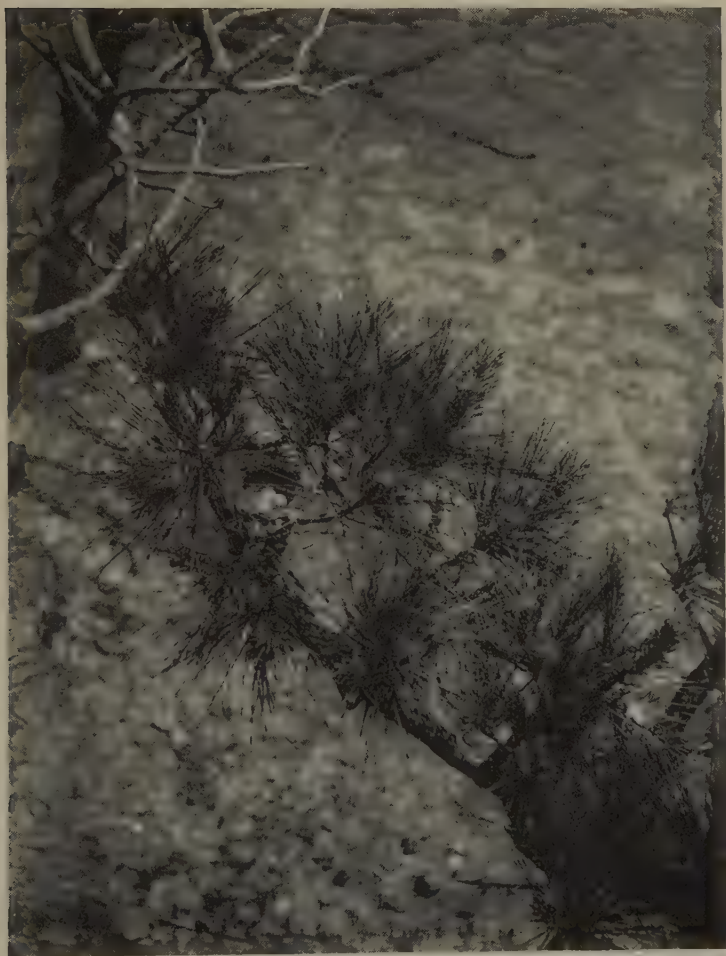


PHOTO BY THE AUTHOR.

TYPICAL NESTING SITE OF THE KINGBIRD.

FAMILY TYRANNIDÆ.—TYRANT FLY-CATCHERS.

GENUS TYRANNUS.

[444]. *Tyrannus tyrannus* (Linnæus). *Kingbird*.

[Betty Bee Martin. Bee Martin. Billy Bee].

RANGE.—North and South America. Breeds from southern British Columbia, southern Mackenzie, southern Keewatin, northern Ontario, central Quebec, and Newfoundland south to central Oregon, northern New Mexico, central Texas, and central Florida; winters from southern Mexico to Colombia, British Guiana, Peru, and Bolivia; casual in Cuba in migration; accidental in Greenland.

This bird, better known to the local inhabitants as the Bee Martin, arrives about April 11th; the main flight of those continuing northward being at its height by the 16th. As his name implies, he certainly is a tyrant, but generally for good. I know of no better bird around one's farmyard as a poultry protector from crows and hawks than the Kingbird. Should either one of these robber birds chance to be passing by, or a black snake show himself near young chickens or ducks, of which they are very fond, Mr. Kingbird immediately launches forth from his near-by perch, and the pursuit only is discontinued after the intruders are driven a quarter of a mile away, or the black snake has sought shelter in a near-by hole. That the old birds return year after year to their former home and nesting site, is clearly proven by two pair of birds on my own place, one nesting in a dogwood

tree on my front lawn, the other pair in a pine tree just outside my yard fence. In both instances they have occupied the same branch each season for four consecutive summers, sometimes starting their new nest on top of the remains of the old last year's one. The nest is a well-made structure of weed stems, fine grass, rootlets and fiber, lined with hair, finer rootlets or fibers. Often the nest is well adorned with strings, rags and bits of paper. They seem to show little preference for a nesting site in this section, from a pine tree forty feet up, down to a lower limb of an orchard tree, four feet up, being used. Three to four eggs is a full set with us here, generally three, a creamy-white ground color, spotted or blotched with reddish-brown or lilac. Size, .95x.70. Fresh eggs June 15th to July 8th. They are quite abundantly distributed over the whole area, even on most of the islands off our coast, where they also breed. The fall migration of local birds begins about August 25th, while the more northern birds pass through in large flocks during the following two weeks. Sometimes two broods are raised during one season. They are a most beneficial bird: beetles, caterpillars, grasshoppers, crickets, small butterflies and moths, hornets and wasps, being their chief articles of food. They are very fond of our native June bug (*Lachnosterna*), the catching of which, while on the wing, is a most interesting sight. They also eat numerous wild berries, such as dogwood, chokeberry, black-gum, and pokeberry.

GENUS MYIARCHUS.

[452]. *Myiarchus crinitus* (Linnæus). *Crested Flycatcher.*

[Snake Bird].

RANGE.—Eastern North and northern South America. Breeds from upper edge of Transition zone in southern Manitoba, central Ontario, southern Quebec, and New Brunswick south to southern Texas and southern Florida; winters from eastern and southern Mexico to Panama and Colombia; accidental in Wyoming and Cuba.

Arriving the last week in April (about the 21st), the Crested Flycatcher commences a round of the suitable knot holes for a nesting site. One may look for them in most any unlikely place, from a bird box down to a tin can stuck on a stub limb of a tree. Natural cavities and deserted woodpecker holes form their usual abode, however. The nest is composed of twigs, grasses, pine needles and weed stems, lined with feathers, fine rootlets and snake skins. The characteristic mark of this flycatcher's nest is his snake skin; how he manages to always find one is a mystery I can not solve. Three to five eggs of a shiny buff color are laid, profusely lined, blotched and spotted with a dark shade of reddish-brown and lilac over the entire surface. Size, .85x.65. The height of nesting site varies from six to thirty feet from the ground. Only one brood a season. Fresh eggs May 20th to June 15th. A pair occupying regularly a nesting box placed in a tree on my front lawn, afforded much amusement by watching them catch and pick to pieces the large June bugs (*Lachnosterna*). Their size, crest, and

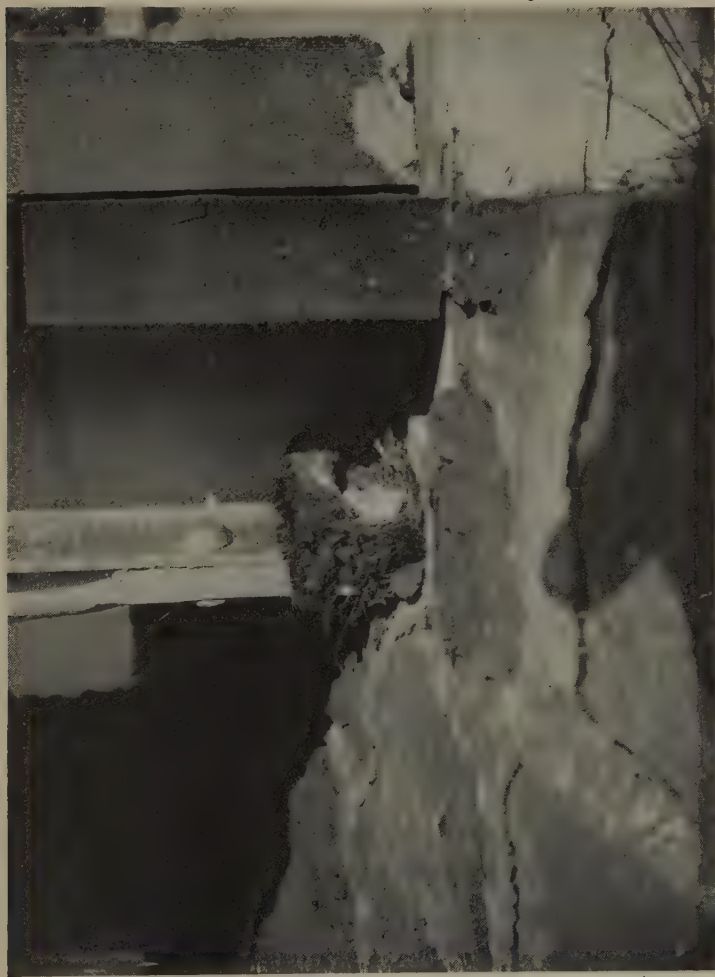


PHOTO BY THE AUTHOR.

THE PHOEBE'S NEST.
UNDER THE OVERHANG OF BRIDGE FLOOR.

yellow underparts, as well as their shrill whistle, makes them readily distinguishable from any of our other breeding flycatchers. The local name of "Snake Bird" was probably given them on account of seeing birds, when building their nests, carrying snake skins in their beaks. While rather a pugnacious bird, sometimes driving off other species, they must be considered of great benefit from an agricultural standpoint. They destroy many harmful insects, flies, beetles, wasps, grasshoppers and crickets, which form the greater part of their food.

GENUS SAYORNIS.

[456]. *Sayornis phæbe* (Latham). *Phæbe*.

RANGE.—Eastern North America. Breeds from southwestern Mackenzie, Alberta, southern Keewatin, Ontario, Quebec, New Brunswick, Nova Scotia, and Prince Edward Island south to northeastern New Mexico, central Texas, northern Mississippi, and highlands of Georgia; winters in United States south of latitude 37° south to Vera Cruz and Oaxaca; in migration casual west to Colorado and Wyoming; accidental in California and Cuba.

Throughout Tidewater this bird is a rare breeding species. South of the James River I know of but one record of a pair of breeding birds, Suffolk, Nansemond County, 1893. This pair bred under an arch of a railroad bridge over an arm of Lake Kilby. On the James River Peninsula I have never found it breeding close to water, although it does breed further westward in the vicinity of Richmond. It breeds sparingly on the Cape Charles Peninsula (Northampton County, 1909), increasing in

numbers as we go northward. The migratory birds arrive about March 19th, and pass southward about September 2nd to 20th, seemingly loitering more on the fall migration southward. They are great insect destroyers, as one must notice by their habit of flying from their perch on a dead twig, telephone wire, or building, catching the passing insect in mid air, and returning to the perch to devour it. The nests are invariably placed under some bridge or arch, or in some kind of an outbuilding; composed of mud, grasses, weed stems and moss, lined with fine grasses and feathers. Five eggs seem to be a full set with us. Size, .75x.55. They are a pinkish-white before being blown, but afterwards become pure white. The eggs are usually finely specked with reddish-brown, sparingly over the entire surface. Fresh eggs May 4th to 15th. Only one brood raised a season in Tidewater. Their food consists of numerous varieties of bugs and beetles injurious to agriculture, while ants, flies of several species, grasshoppers, spiders and crickets, form part of their food supply. They are sociable little fellows and should be protected at all times. In central and western sections, they rear two broods a season.

GENUS NUTTALLORNIS.

[459]. *Nuttallornis borealis* (Swainson). *Olive-sided Flycatcher*.

RANGE.—North and South America. Breeds in Canadian and Transition zones from central Alaska, southern Mackenzie, southern Keewatin, central Quebec, and Cape Breton Island south in coniferous forests of western United States to southern California, Arizona, and west-



PHOTO BY W. O. EMERSON.

YOUNG WOOD PEWEES.

ern Texas, and also northern Michigan, New York, and Massachusetts south in mountains to North Carolina; migrates through Mexico and Central America; winters in northern South America from Colombia to Peru.

This is an extremely rare bird with us, breeding only in our higher mountains, and then in isolated pairs. Professor Smyth does not record it at all, nor did my father find it in any of the places he visited. It arrives about April 25th and migrates southward again in early September. The nest is placed on a horizontal branch of a conifer and fastened securely to it; composed of fine rootlets, twigs and moss, lined with fine rootlets. The eggs number three, rarely four, a rich cream ground, sparingly specked and blotched with reddish-brown, and fainter markings of lavender. Size, .83x.62. Fresh eggs June 5th. These birds, nests and eggs, are not unlike our common Wood Pewee, though larger. The nests are located at a great height and their food is probably similar to that of the other flycatchers.

GENUS MYIOCHANES.

[461]. *Myiochanes virens* (Linnæus). Wood Pewee.

[Pewee-Bird].

RANGE.—North and South America. Breeds from Manitoba, Ontario, southern Quebec, and Prince Edward Island to southern Texas and central Florida, west to eastern Nebraska; winters from Nicaragua to Colombia and Peru; casual in Colorado; accidental in migration in Cuba.

One of our latest migrants to arrive, April 30th to May 5th, and one of the latest to breed. Unlike most of the other breeding migrants, nest building is not commenced soon after arrival, often a month passing by before eggs are deposited. Truly a woodland bird, few can mistake it after once hearing its plaintive "Pee-wee." The warmer the day the more he enjoys sitting on some limb overhanging the road or field, and uttering his plaintive call, flitting back and forth from one perch to another, catching insects. The low nest is saddled on the limb of some tree, preferably with moss or lichens on it, and as the outside of the nest is covered with lichens, detection is not readily made. Old orchard trees are a favorite site, as well as for the Blue-gray Gnatcatcher. Two or three eggs is a full set here; the nest being composed of fine grasses, lichens and bits of moss, covered on the outside completely with lichens and spiderwebs, or plant fiber. The eggs are like most of the flycatchers,' a rich cream color, spotted and blotched with reddish-brown and lilac, mostly on the larger end in the form of a wreath. Size, .80x.55. The height of nesting site varies from ten to forty feet. Only one brood a season. Fresh eggs June 5th to 20th. They are a most useful bird, as various species of flies (including the house fly), bugs, beetles, moths, caterpillars, grasshoppers and spiders are eaten by them. They should be rigidly protected on account of their benefit to the agriculturist. They leave us on their southward migration about September 25th.

HYPOTHETICAL.

GENUS EMPIDONAX.

[463]. *Empidonax flaviventris* (Baird). *Yellow-bellied Flycatcher*.

RANGE.—Breeds in Canadian zone from northern Alberta, northern Manitoba, northern Quebec, and Newfoundland south to North Dakota, northern Minnesota, northern Michigan, New Hampshire, northern New York, and mountains of Pennsylvania and Virginia; west in migration to the eastern border of the Plains, eastern Texas, and eastern Mexico; winters from southern Mexico and Guatemala to Panama; occasional in migration in western Florida; accidental in Greenland.

This is a bird of our mountain area, arriving in the vicinity of Blacksburg; Professor Smyth says, "about April 30th, and is last seen about September 23rd," when it is a very common bird in that section. It builds its nest on low ledges, in the banks of streams, or other similar locations. Three to four eggs constitute a full set, the ground color a rich cream, specked and spotted with brown. Size, .66x.50. Only one brood a season. They prefer heavily wooded sections, and, unlike the Wood Pewee, which usually selects a limb overhanging the road, they prefer the depths of the forest. Their food consists of various species of beetles and bugs, while caterpillars, spiders, ants, millers and moths are freely eaten by them. Like our other flycatchers, they are a most beneficial bird to the State. As yet it has not been found actually breeding in our area.

[465]. *Empidonax virescens* (Vieillot). *Acadian Flycatcher*.

[Green-crested Flycatcher].

RANGE.—Eastern North America and northern South America. Breeds from upper limit of Carolinian zone in northeastern Nebraska, central Iowa, Michigan, southern Ontario, New York, Connecticut (casually), and Massachusetts (one instance) south to southern Texas, the Gulf States, and northern Florida; migrates through Yucatan and Central America and winters in Colombia and Ecuador; casual in Massachusetts; accidental in the Bahamas and Cuba in migrations.

This bird, commonly known as the Green-crested Flycatcher, is probably the most common one of the family within our limits. Breeding, as it sometimes does, in large colonies, besides individual pairs scattered over the whole area, I feel I am making no mistake by stating it is more numerous than the two preceding species, if not all. They seem to have a fondness for the juniper or cypress foliage, and as these are always in close proximity to water, resident birds are generally near-by. Like the Parula Warbler (*Compsothlypis americana americana*), they procure much of their insect food around these trees and dense woods, being more of a bird of the latter than open woodland. Their single sharp note easily distinguishes them from any other resident. The nest is placed on, or in, the fork of a limb near the extremity; a shallow, saucer-shaped affair, from three to forty feet above ground or water. It is composed sometimes of Spanish moss entirely when obtainable, other times of fine

grasses, fiber and rootlets, lined with fine grasses or fiber. Three eggs is a full set, a rich creamy-white, sparingly spotted or blotched with reddish-brown, mostly on the larger end. Size, .75x.55. Fresh eggs May 31st to June 5th. Only one brood during the season. They arrive about May 5th and depart the last week in September. Like the other flycatchers, their food consists of various species of bugs, beetles, wasps, ants, moths and caterpillars. One readily sees they are a most beneficial bird to agriculture by helping to keep down these pests.

[467]. *Empidonax minimus* (Baird). *Least Flycatcher.*

RANGE.—Breeds in Canadian and Transition zones from west central Mackenzie, southern Keewatin, Quebec, and Cape Breton Island south to central Montana, eastern Wyoming, central Nebraska, Iowa, Indiana, Pennsylvania, New Jersey, and in the Alleghenies to North Carolina; in migration west to eastern Colorado, and central Texas; winters from northeastern Mexico and Yucatan to Panama and Peru; accidental in Grand Cayman Island, West Indies.

This bird is quite common in our interior where it breeds abundantly in the orchards and shade trees. Professor Smyth reports it as arriving in the vicinity of Blacksburg by March 19th, and migrating southward the latter part of August. My father found it rare at Harrisonburg. Like all the smaller flycatchers, they are sociable birds, and pleasing to have around one's premises; the good they do in destroying multitudes of insects can

hardly be overestimated. The nests are placed in upright crotches of bushes or limbs, occasionally on a horizontal limb, from six to thirty feet up, composed of fine grasses, spider-webs and plant fiber. The eggs are a creamy-white, occasionally sparingly specked with faint markings of reddish-brown. Size, .64x.51. Fresh eggs May 25th to June 10th, only one brood a season. I found ten nests in one day at Mountain Lake, Giles County, altitude 4,500 feet.



PHOTO BY D. HARPER.

THE BLUE JAY AT HOME.

FAMILY CORVIDÆ.—CROWS, JAYS,
MAGPIES, ETC.

SUBFAMILY GARRULINÆ.—MAGPIES
AND JAYS.

GENUS CYANOCITTA.

[477]. *Cyanocitta cristata cristata* (Linnæus).
Blue Jay.

[Jaybird].

RANGE.—Eastern North America, breeding from central Alberta, southern Keewatin, Quebec, New Brunswick, Nova Scotia, and Newfoundland south to the Gulf States, except Florida, and west to western Nebraska, eastern Colorado, and central Texas; casual in New Mexico.

Not a common bird by any means, though more numerous among the scrub pines and sand dunes in the vicinity of Cape Charles and Cape Henry than elsewhere. This well-known robber of other birds' nests pursues its usual habit of eating eggs of smaller birds during the breeding season, and often destroying partly grown young. My first meeting with these birds in our section was on the 31st of May, 1893, when a nest of four young, nearly ready to fly, was found in a cedar on the edge of the county road leading from Suffolk to Lake Kilby, Nansemond County. Since that time they seem to be on the gradual increase over the whole "Tidewater area." Only twice have I seen birds on the lower end of the James

River Peninsula, during November, 1909, 1910. As the chinquapin nuts or acorns are numerous along this sand dune coast, it is somewhat surprising that this species is not more numerous. Resident birds remain throughout the winter months. The nest is a bulky affair, placed in a live oak, chinquapin, cedar or pine tree, from ten to twenty-five feet up, composed of small sticks, twigs and rootlets, lined with finer rootlets. Four to five eggs is a complete set, with brownish or greenish ground color, blotched and spotted with olive brown. Size, 1.10x.80. Fresh eggs May 1st to 10th. They are a noisy bird, and mimic many of the common species. Their bad habits of eating both eggs and young make them disliked by all other birds, who set up a terrible racket as soon as a jay comes in close proximity to their nest, in which all the surrounding nesting families join. Numerous varieties of insects, and the wild nuts, such as the acorn, chinquapin, beech and chestnut, form their chief article of diet, while table scraps from the house and corn from the field are well liked by these birds. I do not consider them of any great benefit to agriculture. I found them breeding in the top of rhododendron bushes, in the mountains, 4,500 feet altitude.

SUBFAMILY CORVINÆ.—CROWS.

GENUS CORVUS.

[486-A]. *Corvus corax principalis* (Ridgway).
Northern Raven.

RANGE.—Northwestern Alaska, Melville Island, northern Ellesmere Land, and northern Greenland south to Washington, central Minnesota, Michigan, and coast region of New Jersey, and in the higher Alleghenies south through Virginia to Georgia.

This is one of the birds that has been driven from our seacoast entirely, until now it is a rare bird with us even in the mountain regions, where only a few scattered pairs remain. There are two reasons why these birds have left our coast; first, on account of the large heron rookeries formerly on the islands having vanished, from which they procured eggs and young as food; second, on account of the spring gunning and egging on the islands. The inhabitants killed them on account of stealing eggs from the beach bird colonies, while the gunners found they made their presence known when in the blinds and scared the beach birds coming to the decoys. They, like the Fish Crows, were good scavengers along our coastal beaches, but destroyed untold numbers of the eggs and young of all species anywhere near their home. The nest is a large, bulky affair of sticks, lined with hair, wool, or fine bark fiber, placed in a tree or on a shelf of a cliff. Four to five eggs is a full set, the ground a light greenish-gray, spotted and blotched with various shades of brown, with fainter markings of lilac. Size of eggs,

1.98x1.30, which, when compared with those of the common Crow, can be distinguished even by a novice. They probably only rear one brood a season. Fresh eggs April 20th. Their food consists mostly of carrion, while worms, grubs, and other insects are taken to some extent, as well as eggs and young of other birds heretofore mentioned. They do not migrate, remaining near their home throughout the year. Professor Smyth reports them as rare in the vicinity of Blacksburg, but I found them fairly numerous in Giles County, where they breed in the big balsams.

[488]. *Corvus brachyrhynchos brachyrhynchos*.
(Brehm). Crow.

RANGE.—Eastern North America. Breeds from southwestern Mackenzie, central Keewatin, central Quebec, and Newfoundland south to southern Texas and the Gulf Coast (except Florida); winters from near the northern boundary of the United States southward.

These birds remain with us the entire year. As a crop destroyer, especially that of the corn, the Crow has no equal. It has been forcibly brought home to me since living on my farm, the damage done by these birds, often causing one to replant whole fields of corn, losing much time and money, to say nothing of the lateness of the crop. I have had them on my place pull up by the roots, corn three inches tall, and extract the kernel from the end, dropping the young green shoot near the little hole, and going to the next hill, and so on until hundreds of hills were destroyed. One can easily imagine what a flock of even six or eight will do in the course of three or four days



PHOTO BY THE AUTHOR.

NEST OF THE COMMON CROW.

if left unmolested. They will also take young chickens and ducks, as I have had demonstrated to me on my place, while large numbers of the smaller birds' eggs and young are destroyed by them. Blackbirds and Kingbirds are the Crow's worst enemies during the summer months, while the Purple Martin runs a close third as a Crow chaser. Really, I know nothing good of this bird, and instead of the counties (several do yet) paying a bounty on hawks, eagles and foxes, they would do more good by having it on Crows. The nest is rather a bulky affair, though well made, of sticks, twigs and coarse bark fiber, lined with fine strips of bark fiber and sometimes hair. It is placed in a tree, preferably a pine, in thick woods, from twenty to sixty feet up, either in the extreme top, or on the end of a limb. They lay four to six eggs, greenish-white, spotted, specked or blotched with lilac or brown. Size, 1.60x1.15. Fresh eggs March 27th to May 6th. Usually two broods a season. During the winter months they sometimes flock in great numbers, resorting to a dense clump of woods for a roosting place, and returning to such a crow roost year after year. During the fall and winter such a flock, probably numbering three hundred birds, pass daily over my farm and cross the James River, which is seven miles wide at that point, and frequent the peanut plantations in Isle of Wight County. While the crows eat numerous beetles, white grubs, locusts, and occasionally field mice, their main diet in *our* area is the different varieties of grain and peanuts, while in the summer months they destroy many cantaloupes and water-melons for their seed. They also pick up some food in the shape of marine insect life and carrion along our beaches, but my observations lead me to believe they are much more harmful than beneficial.

[490]. *Corvus ossifragus* (Wilson). *Fish Crow*.

[Carrion Crow].

RANGE.—Carolinian and Austroriparian faunas of Atlantic and Gulf Coasts from lower Delaware and Hudson River Valleys and Connecticut to Louisiana and Florida; casual in Massachusetts.

There are few birds more common in Tidewater Virginia, especially James River Peninsula, than the Fish Crow. On the seacoast from boundary to boundary one may see hundreds of these birds both winter and summer, gathering the refuse along the beach just above the tide line. As a beach scavenger I do not place them second to the vultures. In this respect they probably offset the damage they do further inland to the peanut fields. On the islands they destroy thousands of eggs of the gulls, terns, Clapper Rail, and formerly the Great Blue, and Green Herons. On the lower end of James River Peninsula is a famous roosting place or rookery for these birds in winter. Thousands of these birds roost at night in the pine trees there, scattering each morning for the beaches, and especially the peanut fields in Nansemond and Isle of Wight counties, both the latter flights necessitating the crossing of James River, some seven to seven and a half miles wide. The distance to their peanut feeding grounds is probably not less than twenty to twenty-five miles, and with the return trip, quite a distance is covered for their favorite food. As the farmers turn their hogs into the peanut fields to fatten on the nuts left in the ground after taking off the vines, the Fish Crows

thus rob the hogs of a great amount of food, while many pounds of nuts are taken from the stacks while the peanuts are still on the vines drying. It would be a hard matter to estimate the actual damage thus done, in hard cash, but it must be quite a large item each year. The nest is generally placed in a pine tree, or in the island cedars, generally at the extreme, topmost notch, the height varying from fifteen to seventy-five feet, according to the variety and location of tree. The nest is composed of sticks, twigs and bark fiber, lined with finer bark fiber, preferably that of the cedar. Four to six eggs is a complete set, greenish-white, blotched, specked, and spotted with lilac or reddish-brown. A series of eggs presents a great variation in size, ground color and markings. Size, 1.45x1.05. Nest building commences early in April, from two to three weeks elapsing before any eggs are deposited. The season also has much to do with the depositing of the eggs. Only one brood a season. My earliest record for fresh eggs is May 4th, while my latest is May 28th. They remain throughout the year, though probably many of the birds wintering with us come from further north. Their food in this section consists chiefly of insect life, refuse and dead fish cast upon the beaches, peanuts, and berries of the dogwood, holly and sassafras. It is a much smaller bird than the preceding species, and one can easily distinguish it from that species by its notes, uttered as though from a stuffed-up sore throat, and through the nasal passage. I am still undecided as to whether they do more good than harm.

FAMILY ICTERIDÆ.—BLACKBIRDS,
ORIOLES, ETC.

GENUS MOLOTHRUS.

[495]. *Molothrus ater ater* (Boddaert). *Cowbird*.

[Cow Bunting. Cow Blackbird].

RANGE.—North America. Breeds from southern British Columbia, southern Mackenzie, Southern Keewatin, Ontario, Quebec, and New Brunswick south to northern California, Nevada, northern New Mexico, Texas, Louisiana, and North Carolina; winters from southeastern California and the Ohio and Potomac valleys (casually further north) to the Gulf Coast and central Mexico.

Too much can not be said against this parasite of the feathered tribe. I am well within bounds when I state that they do more damage to the smaller breeding birds than all other causes put together, not excluding the oologists even. For the benefit of any possible reader not knowing why I make such a broad statement, I will explain that these birds build no nest or home of their own, but deposit their egg or eggs in that of other species of birds. Some species object most strenuously to hatching these large eggs, sometimes nearly twice as large as their own, and either desert their nest entirely, or build a platform over the Cowbird's egg, sometimes including one or more of their own, and commence laying again. As the young Cowbird is nearly twice the size of the young of the foster parent, and as they thus readily secure the

larger share of food brought to the nest by the parent birds, they soon crowd and starve out the rightful young of the nest. One egg is the average number found in the nest of the foster parents, though two or more is not uncommon; generally the eggs, judging from size, shape, and markings, being from different birds. The greatest imposition on a good-natured bird that I ever found, was that of the Blue-winged Warbler (*Vermivora pinus*), having four eggs of the Cowbird in its nest and two eggs of the warbler. As they were almost uniform as to size, shape, and color, I judged the eggs to be all from one bird. The eggs are a grayish-white, thickly spotted and specked with light brown. Size, .85x.64. Fresh eggs from May 15th to June 3rd. Their food consists of various kinds of grain, weed seeds, grasshoppers, beetles, flies, bugs, and ticks. One sees them in the pasture following the cattle, or often on their backs, searching for ticks, and seeds in their droppings; this close relation between beast and bird probably is responsible for their vernacular name of Cowbird. In the winter they congregate in large flocks, while many may be found in flocks of the Red-winged Blackbird. This is the only polygamous species we have, though observations made on my own farm lead me to believe that some birds remain paired during the laying season at least. Were it not for the fact they are the means of the destruction of so many small and useful birds, I would class them as beneficial. Following is a list of species imposed upon by the Cowbird in this section:

<i>Scientific Name</i>	<i>Vernacular Name</i>
<i>Dendroica æstiva æstiva</i>	Yellow Warbler.
<i>Guiraca cærulea cærulea</i>	Blue Grosbeak.
<i>Vireo griseus griseus</i>	White-eyed Vireo.
<i>Vireo sylvæ olivacea</i>	Red-eyed Vireo.



PHOTO BY THE AUTHOR.

NEST OF THE RED-WINGED BLACKBIRD.

<i>Wilsonia citrina</i>	Hooded Warbler.
<i>Dendroica discolor</i>	Prairie Warbler.
<i>Vermivora pinus</i>	Blue-winged Warbler.
<i>Icteria virens virens</i>	Yellow-breasted Chat.

GENUS AGELAIUS.

[498]. *Agelaius phœniceus phœniceus* (Linnæus.)
Red-winged Blackbird.

[Marsh Blackbird].

RANGE.—North America east of the Great Plains, except Gulf Coast, and Florida. Breeds from Ontario, Nova Scotia, and Quebec southward; winters mainly south of Ohio and Delaware valleys, locally north to Massachusetts.

While the majority of these birds go further south in large flocks with the Purple and Boat-tailed Grackles, many winter with us. These remaining birds commence to build nests from two to three weeks earlier than the migratory ones, often having eggs by April 20th, while the regular season is at its height around May 5th to 10th. The early breeding birds often have second sets, thus extending the breeding time well into August, when at this period they commence to flock again. A great deal of damage is done by them in this section to the different grain crops. In the season of 1911, I had a small crop of popcorn totally ruined for marketable ears by these birds destroying the tassel end of each ear and eating out the half-hardened kernels while milk was still in them. During the latter part of March and first week in April, many



PHOTO BY C. F. STONE.

MEADOWLARK'S NEST.
IN CAVITY MADE BY COW'S HOOF.

flocks pass northward to their breeding grounds, while those remaining with us to breed commence household duties shortly. The nest is placed in the tall marsh grass, low bushes, or cat-tails in marsh, from one to six feet up. It is a well-woven affair of dry marsh grass and stems, lined with finer marsh grass. Three to five eggs is a full set, usually four in this section, the ground color a pale bluish-white, lined, blotched and clouded with black, brown, and purple. Size, 1.00x.70. During the early spring, and nesting period, the male's song is most cheerful, while the bright scarlet on the wings make them easily distinguishable. Their food consists wholly of insect life and small seeds during the breeding season, such as cut worms, caterpillars, grubs, flies and small weed seeds, though they sometimes do some little damage to oats, wheat, and rye, just before it is ripe enough to cut. They do much damage, however, during the spring and winter months, when immense flocks of these birds, in company with the Cowbirds, Boat-tail, and Purple Grackles, descend upon a grain field and literally strip it if not driven away. I am inclined to think that the Redwing, alone, does more good than harm.

GENUS STURNELLA.

[501]. *Sturnella magna magna* (Linnæus).
Meadowlark.

[Field Lark].

RANGE.—Eastern North America. Breeds in Transition and Upper Austral zones from eastern Minnesota, southern Ontario, southern Quebec, and New Brunswick south to

northern Texas, Missouri, and North Carolina, and west to western Iowa, eastern Kansas, and northwestern Texas; winters regularly from the Potomac and Ohio valleys south to the Gulf States, and north locally to the Great Lakes and southern Maine.

A resident species the year round. Even though the day be bitter cold, if the sun is shining brightly its cheery song or whistle is heard floating across the field, only to be answered by another in some other direction. The warm days of spring, though, find them at their best; then it is the fields are literally alive with the resident and migratory birds, one answering the other in rapid succession. Unfortunately, they had long been considered game in this State, and while the law *now* prohibits the shooting of them, many are still killed for the table, as they are most abundant and easily shot during the winter months, when countless numbers of migratory birds are with us. As an article of food, though, they are not satisfactory, their flesh having a strong, rank taste. The nest is usually placed in a depression on the ground, amongst the thick grass, or broom-sedge. It is an exceedingly well-concealed affair of dry grasses, and arched over. Four to five eggs is a full set, a glossy-white, specked with purplish- and reddish-brown. Size, 1.10x.80. Fresh eggs May 5th. It is considered a most beneficial bird to the agriculturist, its food being procured on the ground and consisting of insects, moths, caterpillars, spiders, grasshoppers, worms, weed seeds and other forms of life injurious to crops, while the small amount of grain seed it eats amounts to a trifle compared to the good it does. Northern birds arrive in numbers October 10th to 20th, and go northward the middle of March. Two broods a season in this section is not a rarity, though one is the usual number raised.



PHOTO BY THE AUTHOR.

BUNCHES OF CONCORD GRAPES, SHOWING DAMAGE DONE
BY ORCHARD ORIOLES.

[501-C]. *Sturnella magna argutula* (Bangs).
Southern Meadowlark.

RANGE.—Austroriparian zone from southern Illinois, southwestern Indiana, and southeastern Virginia south to the coast of southeastern Texas, Louisiana and Florida.

This is a subspecies of the former bird, the description of which, together with its local name, food, habits, etc., apply equally as well to this form. It is supposed to be a smaller and darker bird than the former species, their ranges overlapping in the lower counties of Princess Anne and Norfolk.

GENUS ICTERUS.

SUBGENUS PENDULINUS.

[506]. *Icterus spurius* (Linnæus). *Orchard Oriole.*

RANGE.—Eastern North America. Breeds from North Dakota, northwestern Minnesota, Wisconsin, Michigan, southern Ontario, central New York, and Massachusetts south to northern Florida and the Gulf Coast to southern Texas, and in Mexico to Oaxaca and Jalisco, and west to central Nebraska and western Kansas; winters from southern Mexico to northern Colombia; casual north to Vermont, New Hampshire, Maine, and New Brunswick, and west to Colorado; occasional in southern Florida and Cuba in spring migration.

This rather handsome bird and good songster does not winter with us, arriving about April 30th. A sociable bird when conditions are favorable; the trees around the

houses and orchards are selected for a nesting site. The male is a good songster while nest building is going on and during incubation. The female does all the nest building, the male following her back and forth as she procures material. Green grasses are used for the construction of the nest, which are woven into a beautiful, finely and strongly made structure or cup-shaped basket, lined with plant down and suspended from a crotch or supported by an upright crotch of limb. With the color of the material used in the nest, and their habit of placing it so as to be well concealed by surrounding green leaves, it is not one of the easiest nests to find; watching the flight of the parent birds is advisable. Only one instance do I know of where these birds resorted to a pine tree. This happened on my farm in 1910, the nest placed in a small young pine's topmost upright forks, about 20 feet up. The eggs are three to five in number, bluish-white, spotted, blotched, and slightly streaked with brown and lavender. Size, .80x.55. Two and sometimes three broods are raised a season. There is no doubt but what they do some damage to berries, grapes and sometimes fruit, but the amount of good they do around the place far overbalances the harm done. One year when my vineyard was small, I found that four young orioles reached the flying age just before my grapes ripened, and these, with the two old birds, damaged many handsome bunches of grapes by picking spots out of a few berries of each bunch, thus ruining their marketable qualities. The following season I experimented with this same pair of birds, which nested each year in a dogwood tree on my front lawn. The first set of eggs, four in number, May 20th, I took, and by the time they had layed, hatched and reared their second setting, my grapes were marketed.

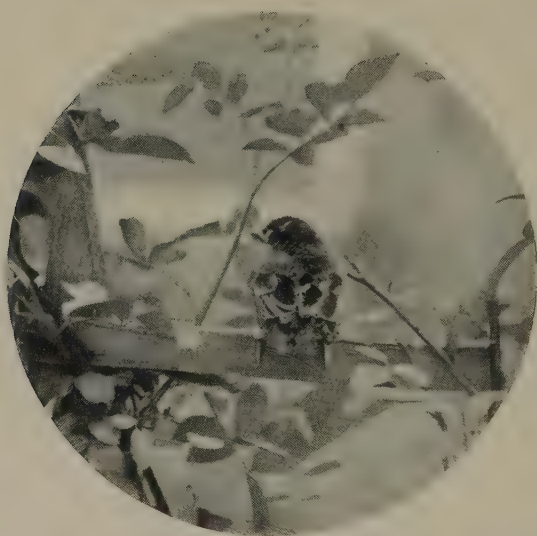


PHOTO BY C. F. STONE.

YOUNG BALTIMORE ORIOLE.

They not only raised their second set or first brood, but another, the latter of three young. Last season, in following along these lines, I had the same results; the first brood or second setting, four young; second brood, three young. The height of nest varies from ten to forty feet up. Their food consists almost entirely of insects, mostly taken from the foliage of near-by shrubs, bushes, and trees, thus making them a most beneficial bird to have around one's farm. They leave us on their migration southward about August 16th.

SUBGENUS YPHANTES.

[507]. *Icterus galbula* (Linnæus). *Baltimore Oriole*.

[Weaver Bird. Basket Bird. Golden Robin].

RANGE.—Eastern North America and northern South America. Breeds mainly in Transition and Upper Austral zones from central Alberta, central Saskatchewan, Manitoba, Ontario, New Brunswick, and Nova Scotia south to northern Texas, central Louisiana, and northern Georgia, and west to Montana, Wyoming, and Colorado east of the Rocky Mountains; migrates through eastern Mexico; winters from southern Mexico through Central America to Colombia; accidental at York Factory, Hudson Bay, and in Cuba.

In our Tidewater region, even during the migrations, this is a rare bird with us, and it was not until the season of 1910 that I had positive evidence of their breeding within that limit. During my visit to Northampton County that year, I was shown a nest of this bird in an

apple orchard, and being familiar with the bird and the construction of its nest, satisfied myself that it does breed within Tidewater, though sparingly. The nest is a beautiful basket-shaped affair of plant fibers, hair, string, cotton, and other soft materials they chance to find, suspended from the extreme end of a limb, more often the elm, and from twenty to sixty feet from the ground. Eggs number from four to five, a grayish-white glossy ground color, blotched, streaked and lined with black and various shades of brown. Size, .90x.60. Fresh eggs May 15th. Only one brood a season. I consider Northampton County their southern breeding range limit in the Austroriparian zone. While with us their food consists mainly of caterpillars, with a lesser assortment of various insects injurious to agriculture, the good they do destroying the tent caterpillar in the orchard, and home shade trees, should offset many times the harm they do by taking sparingly of the smaller fruits and berries. They arrive on the Eastern Shore about May 1st, and depart the latter part of August. The male is a noisy fellow until incubation is over, after which one seldom hears him sing. Maple and elm trees seem to be their favorites for building their nests in. They become more abundant as we go northward, and in Accomac County they are not rare; and fairly common in central and western sections.

GENUS QUISCALUS.

[511]. *Quiscalus quiscula quiscula* (Linnaeus). *Purple Grackle*.

[Crow Blackbird].

RANGE.—Middle Atlantic coast region of the United States. Breeds in the Carolinian fauna from the north

shore of Long Island Sound and the lower Hudson Valley west to the Alleghenies and south to the uplands of Georgia, Alabama, and eastern Tennessee; winters mainly south of the Delaware Valley.

If one really wants to see these birds at all seasons of the year, I know of no better place or larger rookery than the National Cemetery connected with the National Soldiers' Home at Hampton, Virginia. For years, vast numbers have used the firs and evergreens in the cemetery for a roosting place in winter, while numbers use the same trees and surrounding ones after foliage has come out, for nesting sites. One standing outside the high brick wall surrounding the cemetery, will be astonished at the racket or noise the vast multitude of birds can produce after coming in to roost, while for over an hour before dark each evening, flock after flock passes over our head en route for the rookery. As the gates are closed at night and no one is allowed to molest them they return to it year after year as a safe haven. This species is, however, fairly well distributed over our entire section. On the islands off our coast they nest in the pines with the Ospreys, and in cedar trees with Green Herons and Fish Crows. Often on Hog, Smith, and Mock Horn islands have I found that these birds had built their nests among the large sticks in the side of the Osprey's nest, neither molesting the other. The nest is composed of coarse grass, weed stems, and straw, lined with fine grasses. Tall cedars and pine trees are their favorite locations; some nests in the latter trees I have found as high as 40 feet up, while on the other hand, a colony in a small swamp, built in bushes, none over ten feet up. Large numbers are shot during the winter months,

especially during the fall migration. While a great number remain throughout the entire winter, like those of the following species, the majority return from further south the last week in March. By April 26th most of the nests are finished, and many have their complement of eggs. Four to five is a complete set, the ground color, like the following species, varying from grayish-white to light brownish, spotted, specked, blotched and streaked with brown and black. Size, 1.10x.80. A series shows a decided variation as to size, shape, color, and markings. They rear but one brood a season, and by October 15th have flocked and commenced their fall migration. Their vast numbers destroy much grain during the winter months, thus bringing them under the injurious species, and exempt from any protection; but they eat many of the injurious weed seeds, insects, grubs and beetles, and are thus highly beneficial, especially during the breeding season. Some writers have laid to their record the bad habit of eating small birds' eggs, but in our section I have never come across such an occurrence.

GENUS MEGAQUISCALUS.

[513]. *Megaquiscalus major major* (Vieillot). *Boat-tailed Grackle*.

[Jack/Daw].

RANGE.—Austroriparian zone of the South Atlantic and Gulf States from Accomac County, Virginia, to Florida, and west to the eastern coast of Texas.

Although the 1910 A. O. U. check list gives their northern breeding range as "Chesapeake Bay," these

birds breed on the islands as far north as Accomac County. Hog Island is now their greatest breeding ground in Tidewater, while some few may be found breeding on Cedar and Chincoteague islands further northward. They seem to be extending their breeding range further northward each season, possibly on account of the destruction of suitable nesting sites on the islands further southward. The extreme northern and southern ends of Hog Island offer abundant nesting sites in the way of a dense growth of myrtles, and now the majority of the birds resort to it, where formerly cedars and pines were used. Some few pair even build in the tall marsh grass on the inner side of the island. On Mock Horn Island, a visit in 1910 disclosed about twenty pairs still breeding there; like the herons, Ospreys and Fish Crows, the lumberman's axe had driven elsewhere a once enormous colony. They are a sociable bird if unmolested, and while their notes are of a rasping, metallic sound, it is not offensive to the ear. They are easily distinguished by their size, and when in flight the long tail, resembling a boat's rudder, is most conspicuous, and an easy identification mark.

There was a time when this bird bred abundantly on most of the islands off our coast; occasionally a few pair bred on the mainland in company with the preceding species. Of late years, owing to most of the pines being cut, as well as the cedars on some of the islands, causing the small, scrubby growth to die out, less and less have returned to breed each season, until, on a visit to Smith's Island, their great stronghold in years past, only some half dozen pair were found breeding. Nor have I found any breeding on the mainland as of old, though some few undoubtedly breed from Cape Henry southward to the boundary line. The nest is a bulky affair of mud, coarse

weeds, stems and grass, lined with finer grasses. Three to five eggs are a full set, though four is the general number. Size, 1.25x.95. The ground color of the eggs varies from grayish-white to light brownish, while the markings consist of spots, blotches and streaks of black and brown. A series shows a great variation in color and markings. Mild winters many remain on the islands, but the migratory of the birds arrive with the flocks of the preceding species, early in April. Their food is similar to the former species, with the addition of marine life, such as small mollusks, fiddler crabs, dead minnows and other insect matter found along the mud flats and in the salt marshes.



PHOTO BY THE AUTHOR.

AN ORNITHOLOGICAL PARADISE.

HYPOTHETICAL.

FAMILY FRINGILLIDÆ.—FINCHES,
SPARROWS, ETC.

GENUS LOXIA.

[521]. *Loxia curvirostra minor* (Brehm). *Crossbill*.

RANGE.—Northern North America. Breeds from central Alaska, northern Mackenzie, central Ungava and Newfoundland south to California (Sierra Nevada and San Bernardino mountains), southern Colorado, Michigan, and casually in Massachusetts and the Alleghenies south to Georgia; winters irregularly south to southern California, New Mexico, northern Texas, Louisiana, and Florida; casual in Lower California, Gaudalupe Island, and Bermuda.

Giles, Grayson, Washington, and possibly Craig counties, offer the best nesting grounds for this bird of the Canadian zone.

As the name would imply, the bird has its bills crossed, and thus is easily recognized. I have only seen it once in Tidewater Virginia; during the protracted cold weather of early 1912. Professor Smyth reports it at Blacksburg in January; and again a large flock in June, from which specimens were shot. They are an erratic bird, seldom found breeding in the same locality two successive seasons, even though their food of seeds of the pine cones is plentiful. The nest is placed on a branch or fork of a

limb of a conifer, from 20 to 60 feet up; of grass, twigs and rootlets, lined with moss or feathers. The eggs number four, the ground color a pale green, specked and spotted with dark brown, and fainter markings of lilac. They probably raise but a single brood each season. Birds were noted at Mountain Lake on May 24th.

GENUS ASTRAGALINUS.

[529]. *Astragalinus tristis tristis* (Linnæus).
Goldfinch.

[Wild Canary. Yellow Bird. Thistle Bird].

RANGE.—Eastern North America. Breeds in lower Canadian, Transition and Upper Austral zones from southern Manitoba, central Quebec, and Newfoundland south to eastern Colorado, southern Oklahoma, central Arkansas, and northern Georgia; winters over most of its breeding area and southward to the Gulf Coast.

These birds, locally called Wild Canary, are very abundant with us until the usual cold spell of January 1st or thereabouts, when most of them, with the migrants, move further south, only to remain a few weeks though. By February 27th the main body of the migrants join with those brave enough to winter out our cold wave, only remaining a few days, and then passing on through. Many remain throughout the summer and breed. The flower gardens in any of our towns and most cities, should they contain either the dwarf or large varieties of sunflower, are sure to have these birds visit them for seed. There seems to be no seed liked better by the Goldfinch

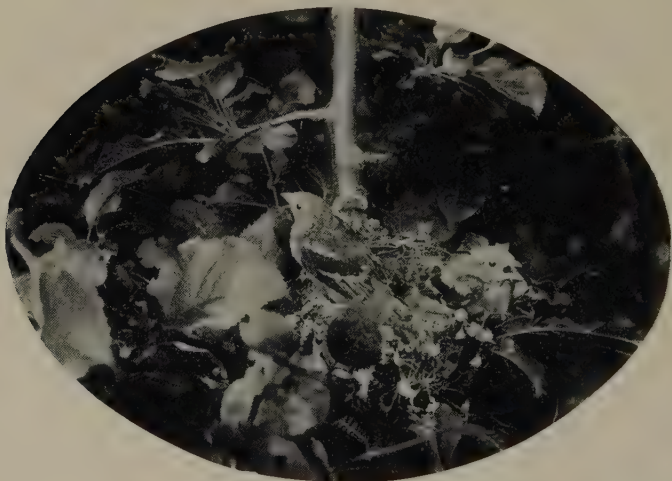


PHOTO BY C. F. STONE.

YOUNG GOLDFINCHES ABOUT TO LEAVE NEST.



PHOTO BY W. O. EMERSON.

NEST AND EGGS OF THE GOLDFINCH.

than the sunflower; one naturally associates these two together. Their bright plumage and sweet song make them an attractive bird to have around one's home. They are the latest breeding bird we have, the last of July and first week in August finds them nest building for the first time. The nest is placed in an upright fork of low bushes, or on forks of lower limbs in fruit orchards, seldom above twelve feet. Four to five bluish-white eggs are laid. Size, .65x.50. The nest is a well-made, closely woven affair of plant fiber and down, and when they can get it (thistles being scarce in this section), thistle down is used profusely. They raise but one brood a season, and their food consists chiefly of seeds, such as thistle, sunflower, lettuce and turnip, after it has formed a stalk and seed matured. They are particularly fond of the dwarf sunflower, while seed from all the native weeds are eaten almost entirely during the winter months. They breed sparingly all over the State up to 4,000 feet altitude.

GENUS SPINUS.

[533]. *Spinus pinus* (Wilson). *Piné Siskin*.

RANGE.—North America. Breeds mainly in Canadian zone from central Alaska, southern Mackenzie, southern Keewatin, and southern Ungava, south through the higher mountains of western United States to San Pedro Martir, Lower California, and southern New Mexico, and to northern Minnesota, northern Michigan, New Brunswick, Nova Scotia, and in mountains to North Carolina, and casually in the lower Hudson Valley and Massachusetts; occurs in winter over most of the United States south to northern Mexico; casual in southern Lower California.

These little birds are residents of our higher mountain region only, the Canadian zone of Giles, Craig and Grayson counties being ideal nesting grounds for them. During the winter months, if the weather be severe elsewhere, small flocks are occasionally seen in Tidewater Virginia, and Professor Smyth reports migratory birds in the vicinity of Blacksburg, December 26th to May 4th. They breed in the Alleghenies in Giles, Grayson, and Washington counties, and have been taken also in the mountains of North Carolina. It was, though, while in California that I became better acquainted with these birds than in my own State. They were breeding in small companies in the cypress trees near San Francisco, placing their nests near the extremity of a limb, far out from the trunk, and from twenty to forty feet up. The nests were made of fine grass and weeds, lined with hair, somewhat similar to those of the Chipping Sparrow, but not so closely woven. The eggs number four, the ground a pale greenish, finely specked with blackish-brown sparingly distributed over the entire shell, though more numerous toward the larger end. Size, .65x.48. Their food consists mostly of seeds taken from the coniferous trees they usually inhabit, though often seeds from weeds and grasses near the ground are taken. They rear but a single brood each season, flocking and migrating early, as do the goldfinches, for which they are often mistaken. Fresh eggs May 27th to June 10th.

INTRODUCED BREEDER.

Passer domesticus (Linnæus). *English Sparrow*.

[House Sparrow].

This common pest needs no introduction to any of our readers, as I feel sure every one knows at least this bird. For the information of a certain class of readers I will state, however, that the "English Sparrow"* was imported from England to Brooklyn, N. Y., in the fall of 1850, by the directors of the Brooklyn Institute, notably Hon. Nicolas Pike, eight pair being the first shipment. These eight pair didn't thrive well, and in 1852 another lot was introduced which managed to secure a foothold. Now they are in nearly every state and territory in the United States. I find them abundant even on the islands off our coast; nesting sites varying from woodpecker holes in trees to the usual one in the rain spout of the house. In favorable localities one may find nests with either eggs or young seven months out of twelve. The eggs are grayish-white, spotted, specked, or blotched with blackish. Size, .85x.71. Four to six eggs is a full set with us. The nest is composed of dry grass, weeds, straw, and trash, such as paper, rags, string, etc., lined with feathers and other soft materials they happen to find. I consider them a pest, to be destroyed on all occasions. Now and then we see them eating some grub, worm, or caterpillar, but as a whole they do more damage than good, and drive away many of the more beneficial birds.

*The English Sparrow in North America, U. S. Dept. of Agriculture, Division of Economic Ornithology and Mammalogy, Bulletin No. 1.

GENUS POECETES.

[540]. *Poecetes gramineus gramineus* (Gmelin).
Vesper Sparrow.

RANGE.—Eastern North America. Breeds in Lower Canadian, Transition, and Upper Austral zones from southwestern Keewatin, central Ontario, central Quebec, and Cape Breton Island south to eastern Nebraska, central Missouri, Kentucky, Virginia, and North Carolina, west to western Minnesota; winters from southern part of its breeding range to the Gulf Coast, west to middle Texas, casual in Bermuda and Yucatan.

This is a bird of our inland region, except in the early fall and spring, when many tarry with us for a few weeks. They are an abundant bird in the interior during the breeding season, my father finding them very common at Harrisonburg, Goshen, and Hot Springs, where young and eggs in all stages of incubation lead him to believe they raised not less than two broods, possibly three. The nest is made in a slight hollow in the ground, of dry grasses, and sometimes lined with hair. The eggs usually number four, a grayish-white, blotched, lined and specked with different shades of brown, and fainter markings of lilac. Size, .80x.60. Around Harrisonburg the birds built in the grain fields, which, when cut, destroyed many outright, the others being deserted for lack of shelter or protection. Fresh eggs May 10th to 20th (first sitting), July 2nd (second brood), August 5th (third sitting). Like all the sparrow family, they do a great amount of good by destroying many noxious weed seeds and insects, grasshoppers being a staple article. Professor Smyth reports them as arriving at Blacksburg April 17th, where

they also breed, and last seen November 2nd, while in the Tidewater region they arrive about the first of April, and migrate southward November 1st to 15th.

SUBGENUS AMMODRAMUS.

[546]. *Ammodramus savannarum australis* (Maynard).
Grasshopper Sparrow.

RANGE.—Eastern North America. Breeds in Austral zones (sporadically in transition) east of the Great Plains from southern Wisconsin, southern Ontario, and southern New Hampshire south to southern Louisiana, central Alabama, northern Georgia, and northern South Carolina; winters from southern Illinois and North Carolina south to the Bahamas, Cuba, Cozumel Island, Yucatan, and the Gulf Coast of Mexico; casual in Maine.

There is no mistaking this chunky little sparrow for any other, especially during the breeding season and early fall. Even within the town and city limits he sits on the top of some low bush or weed stalk, pouring forth his song, and when thus seen he seems as broad as he is long. When he flies the rapid wing beats distinguish him from any of the other resident sparrows, while the yellow on the bend of wing also makes him an easily marked bird. As the heat of the day advances he retires to the ground amongst the long grass and broom sedge, and the song, when given from such a location, seems far distant and weak, suggestive of a grasshopper, as some writers put it. The old name, "Yellow-winged Sparrow," was far more appropriate, I think. In this section the nest is one of the hardest of all ground-nest-building birds to find, even though it is so common. The nest is sunken in some slight

depression in the ground, arched over, and the female seldom rises when flushed from it, running off some distance in the tall grass before taking flight. It is composed of fine grasses and rootlets, lined with finer grass and rootlets. Fresh eggs, four to five in number, May 20th, are a glossy white, sparingly spotted and blotched with reddish-brown, occasionally some lilac. Size, .72x.55. They do not winter with us, arriving the latter part of April. In going to and from work every day my path led across a field having two or three pair of these birds resident, and though I took a different route across that field dozens and dozens of times, I was unable to locate any of the pairs breeding in it until after the young were over half grown and had left the nest. They are sociable little fellows, seldom minding man's presence in close proximity to their home; how much so one will readily understand when I say a pair built in a strawberry patch while the patch was being worked, and later picked. Occasionally two broods a season. They leave for the south about September 20th. Their food consists of ants, larvæ, insects, and the seeds of weeds and grasses.

GENUS PASSERHERBULUS.

[547]. *Passerherbulus henslowi henslowi* (Audubon).
Henslow's Sparrow.

RANGE.—Eastern United States. Breeds in Transition and Upper Austral zones from central Minnesota, Ontario, New York, and southern New Hampshire south to southern Missouri and northern Virginia (on the seacoast to southeastern Virginia, Norfolk and Princess Anne counties); winters in southern United States to Texas and southern Florida.

In 1910 a small colony of these birds, numbering about ten pair, were found during the early breeding period in Princess Anne County, but although a diligent search was made by Mr. J. E. Gould and myself, no nests with eggs were discovered. This was on June 3rd. A partly finished nest was, however, discovered, and the birds were all paired off. My attention was called to this colony by Mr. A. H. Helme, who noticed birds apparently ready to breed the latter part of May, the previous season. This is the only colony I know of within Tidewater, thus extending the breeding range given in the latest A. O. U. check list to northern and southeastern Virginia. Their song resembles somewhat that of the Grasshopper Sparrow, though much shorter, and their flight and habits closely resemble that bird. As many of this species winter with us, it is not improbable that this colony mentioned, found conditions and climate most favorable, and remained over instead of migrating further north. The land was low and wet, covered with broom straw and scattering scrub bushes, corresponding to breeding places of this species elsewhere. The nest is a well-concealed, though loosely made structure of grasses, lined with finer grass, placed in a depression in the ground. A full set of eggs numbers four, a grayish-white, finely specked and spotted with reddish-brown. Size, .73x.55. As 1911 was rather a backward season, this colony probably was influenced by it, and should have eggs by June 5th, judging by the breeding dates of those further northward. Further notes on this colony I hope to furnish later. Their food consists of insects and seeds similar to the preceding species.

Since the above was written, Mr. Gould took a set of three eggs, incubated, May 30th, 1913, other nests just commenced.

[549]. *Passerherbulus caudacutus* (Gmelin). *Sharp-tailed Sparrow*.

RANGE.—Salt marshes of Atlantic Coast. Breeds in Transition and Upper Austral zones from Massachusetts to Virginia; winters in salt marshes from New Jersey (casually from Massachusetts) to Florida.

These birds breed more abundantly along the salt marshes of the northwestern side of Chesapeake Bay than on the Cape Charles Peninsula or coastal islands, the latter place being the natural haunts of the following species. During the mild winters many remain with us, but during the last week in April and first week in May, large numbers pass along our coastline northward. As with the Seaside Sparrow, the nests are well concealed in the long marsh grass at or near the foot of some bush or large bunch of grasses, or under dry seaweed, and other trash thrown up by the equinoctial tides. It is composed of dry marsh grass and stems, lined with finer marsh grasses, seldom placed over three or four inches above ground, even when located in the foot of the sage bush. The eggs, four to five in number, average a trifle smaller than the Seaside Sparrow, size, .75.x.55, the ground color a grayish-white, and spotted and specked with reddish-brown. The birds are hard to flush; even when disturbed from the nest they prefer running away unless too closely pursued, when they fly only a short distance to the top of some near-by bush or tall bunch of grass, and disappear below. Fresh eggs May 15th to 20th, only one brood a season. Their food consists of insects and marine life gathered along the marsh flats and in the tall marsh grass at low tide. During high tides they seek the higher ground bordering the marshes, where from under the scrubby foliage it is almost impossible to flush them.

[550]. *Passerherbulus maritimus maritimus* (Wilson).
Seaside Sparrow.

RANGE.—Salt marshes of the Atlantic Coast. Breeds chiefly in the Upper Austral zone from southern Massachusetts to Virginia; winters from Virginia to Georgia.

On the chain of islands stretching northward from Cape Charles, this is the most common sparrow. They prefer the inner or landward side of the islands, and, like hundreds of rats, they glide in and out among the drift, low bushes, and grass, in search of food. Even when incubating her eggs, the female is hard to make fly any great distance, generally slipping from the nest and running off amongst the grass or drift. The male has a pretty habit of flying from a bush, skyward, all the while uttering his song, at the end of which he turns and sails back to his perch again. The nests are either placed under banked-up seaweed caused by the equinoctial storms, or in the tall grass, or in, or at the foot of, a bush, the latter cases sometimes being six inches above ground. The nest is composed of dry marsh and eel grass, lined with finer grasses. The eggs, three to five in number, a greenish-white, blotched and spotted with reddish-brown, and some little lilac. Size, .77x.56. A series shows a marked difference as to ground color, markings, size; and material used in the nest construction. Fresh eggs May 20th to June 7th; their breeding date depending much on the weather conditions, and late high tides. Many birds of this species remain throughout the entire year. Only one brood a season. Their food is similar to the Sharp-tailed Sparrow, also their manner and places for procuring same. They also breed on the mainland from Cape Henry southward, and on the western side of Chesapeake Bay.

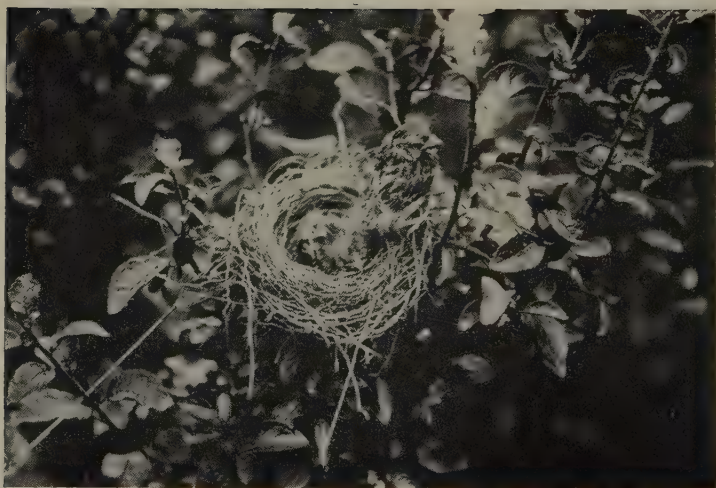


PHOTO BY C. F. STONE.

YOUNG CHIPPING SPARROWS, ABOUT TO LEAVE NEST.

GENUS SPIZELLA.

[560]. *Spizella passerina passerina* (Bechstein).
Chipping Sparrow.

RANGE.—Eastern North America. Breeds in Canadian, Transition, and Austral zones from central Saskatchewan, southwestern Keewatin, northern Ontario, central Quebec, and Cape Breton Island to central Texas, southern Mississippi, and central Georgia; winters chiefly in southern states, occasionally as far north as Oklahoma and southern New Jersey; casual in Cuba and north-eastern Mexico.

Large numbers of these sparrows winter with us, and, in company with other species of sparrows and juncos, are found working through the second growth and fields in search of food, destroying many of the noxious seeds and insects. I wouldn't be without these sociable little birds on my farm, especially during the early transplanting period of cauliflower, peppers, tomatoes, egg plant, etc. Many a time have I watched them go the full length of a hundred-and-fifty-foot row of young egg plant in my truck garden, and running along underneath, hop up and pick off the insects on the under side of the leaves. There is no better remedy for the cut worms on a truck farm than a few pairs of Chipping Sparrows. Would they were as plentiful as that pest, the English Sparrow! They nest about anywhere, from berry bushes, two and a half feet up, to the extremity of a pine limb twenty-five feet up and fifteen feet from the trunk. The nest is composed of fine grasses, rootlets, or weed stems, lined with hair. Eggs, three to four in number, greenish-blue, sparingly

specked, spotted or blotched with black and blackish-brown. Size, .70x.52. Two and sometimes three broods a season are raised. — First setting May 10th to 20th. These birds are much smaller than the English Sparrow, and should not be confused with them when laying the blame rightly belonging to that pest. We found them breeding in the Alleghenian zone as high as 4,000 feet altitude.

[563]. *Spizella pusilla pusilla* (Wilson). *Field Sparrow*.

RANGE.—Eastern North America. Breeds in Transition and Austral zones from southern Minnesota, southern Michigan, southern Quebec, and southern Maine to central Texas, central Louisiana, and northern Florida; winters from Missouri, Illinois, southern Pennsylvania, and New Jersey to the Gulf Coast; casually further north.

Wintering with us, as do many of the sparrows, the warm days find them singing, but more softly than in the spring, as though afraid some one would hear them and tell them to stop. Around my farm their nesting sites range from the currant bushes to the thorny french artichoke plants, and, with the Chipping Sparrow, they form an important factor in keeping down the bugs and insects in the truck patches. The nest is rather a flimsy-made structure of coarse and fine grasses, lined with finer grasses. Eggs three to four in number, grayish-or bluish-white, spotted and blotched with light brown and lilac. Size, .65x.50. A series shows great variation in markings, shape, and size. The nest is placed a few inches above ground, in any suitable place, from a clump of

weeds in an open field, down to the foot of a small bush along the roadside. Two and sometimes three broods are raised a season, May 2nd, first setting, second setting by June 15th. One can hardly have a more beneficial bird around one's farm or suburban home than this species. They also eat many seeds of the weeds and grasses. They are common all over the State.

GENUS JUNCO.

[567-E]. *Junco hyemalis carolinensis* (Brewster).
Carolina Junco.

[Snowbird].

RANGE.—Southern Alleghenies. Breeds in the Canadian zone (overlapping into the Upper Transition) of mountains from western Maryland, Virginia, and West Virginia south to northern Georgia; winters in adjacent lowlands.

Nearly every one is familiar with this little bird, especially during the winter months when they are very common, and during our coldest weather one can see them picking and scratching away in the woodland leaves or along the roadside in search of insects and seeds. If the ground be covered with snow, large flocks are seen in company with numbers of the smaller sparrows, flitting over the fields and gathering in the weed seeds from the stalks, or working under the heavy brush or bank ledges, where the ground is still bare. The great amount of insects and weed seeds eaten by these birds, especially in the Tidewater region of our State where they winter, should make the farmer realize they are one of his best

friends. On my own farm I have scattered the sweepings from the hay loft, with some cracked corn added, out on top of the snow, and always have a large flock gather within a few minutes. They breed in our higher mountains, Washington, Grayson, and Giles counties affording the best sites. They leave us in the coast region the latter part of March, a few remaining into April. The nest is a deeply cupped structure of fine grasses, lined with hair, placed under some overhanging root, rock, ledge or bank, thus well concealed and making them very hard to find. The eggs number four to five, a grayish-white ground, specked with reddish-brown. They have been taken more extensively in the Carolina mountains just south of our border, where they probably breed in greater numbers than in our State. I found them very abundant in Giles County, where they raise two broods. Fresh eggs April 25th, first setting; July 1st, second setting. They did not breed below 3,500 feet altitude.

GENUS PEUCÆA.

[575-A]. *Peucæa æstivalis bachmani* (Audubon).
Bachman's Sparrow.

RANGE.—Southeastern United States. Breeds in Carolinian and Austroriparian zones in central Illinois (locally in southeastern Iowa), southern Indiana, southern Ohio, and central Virginia south to central Texas and extreme northwestern Florida; winters from southern North Carolina southward into Florida; casual near Washington, D. C.



PHOTO BY C. F. STONE.

NEST AND EGGS OF THE SONG SPARROW.

Throughout central Virginia there are many ideal places as breeding grounds for this seclusive sparrow, inhabiting as it does the more open pine woods, where it places its nest on the ground, well concealed by low vegetation. The nests themselves are not unsimilar to those of the Ovenbird, though lacking the underbody of leaves, being made of fine grasses and weed stems, and arched over. The eggs, though, which are white, unmarked, make the nest easily distinguishable from that species. Four eggs seem to be the general number. Size, .77x.62. Fresh eggs May 5th to 15th. Probably only one brood is reared with us, and their food differs little from that of the Grasshopper, Henslow's, and Vesper sparrows.

GENUS MELOSPIZA.

[581]. *Melospiza melodia melodia* (Wilson). *Song Sparrow.*

RANGE.—North America east of the Rocky Mountains. Breeds in the Canadian, Transition, and Upper Austral zones from southern Mackenzie (Great Slave Lake), central Keewatin, northern Ontario, central Quebec, and Cape Breton Island south to southern Nebraska, central Missouri, Kentucky, southern Virginia, and southern North Carolina (mountains), and west to the Rocky Mountains of Alberta; winters from Nebraska, Illinois, Massachusetts (locally), and New Jersey south to the Gulf Coast, and sporadically north to Michigan and Nova Scotia.

A little bright sun even during our coldest days, finds this happy songster in some warm, sheltered spot singing

away for dear life. And a sweet song it is, too, reminding one of the warm days to come, not far off. Around the buildings, especially if they be located near a creek or river, finds a pair holding forth both winter and summer. It is rather a late breeder for one raising two broods, first settings from May 5th to June 1st. Three to five eggs is a full set, grayish-white ground color, spotted, blotched or specked with brown, lavender, or reddish-brown, sometimes so profusely as to obscure almost the entire surface. Size, .80x.60. The nest is placed in some bush or rank growth of grass near water, from two to six inches above ground, a close-woven, well-made structure of grasses, weed stems, and lined with fine grasses and hair. Never will I forget my first day after these birds. It was near the beginning of my collecting, way back in 1890, and it was June 9th, I find from my data. I was working a small hillside bordering a short arm of a creek, and the day was excessively hot. The overhanging bank cut off any possible breeze that might have been stirring, while the sun beat straight down from above, for it was nearing one o'clock and I was faint and weary after the morning's tramp. I was looking for just one more set of those sparrows, when, parting a medium-sized sage bush surrounded by tall grass, a large-sized hornet's nest seemed to be disturbed by my presence, and emptied forth its inhabitants upon me. Pain, hunger, and heat had me stretched out under a neighboring tree for over an hour, if I remember rightly, the only accident of its kind I ever had happen to me, though I have worked many such places since. They are a sociable bird, and as their food consists chiefly of insects, larvæ, and seeds (occasionally small grain), they must be of great benefit to agriculture. They are distributed over our whole area, breeding also

on the islands off our coast, where, when using raw sheep wool in their nest construction, they build some very handsome nests. Collecting on Hog Island during the summer of 1912 was particularly attractive on account of the wool used by many of the species when nest building. The Song Sparrow, Boat-tailed Grackle, Kingbird, Prairie Warbler, House Wren and White-bellied Swallows, all used it to some extent, sheep being more numerous on the island that season than usual. Our local birds probably do not migrate, but are joined during the winter by many from further north.

[584]. *Melospiza georgiana* (Latham). *Swamp Sparrow.*

RANGE.—North America east of the Great Plains. Breeds in Canadian, Transition, and part of Upper Austral zones from west central Alberta, central Mackenzie, central Keewatin, central Quebec, and Newfoundland south to northern Nebraska, northern Missouri, northern Illinois, West Virginia (mountains), and northern Virginia; winters from Nebraska, Ohio Valley and Massachusetts (rarely) south to the Gulf Coast from central Florida to southern Texas, southern Tamaulipas, and Jalisco, Mexico; accidental in Utah and Colorado; casual in Bermuda.

This is a rare breeding sparrow within the southern half of our State, though abundant during the winter time, as many from further north remain with us. Those migrating northward from south of us, arrive about March 4th, while in the fall the height of the migration reaches us about October 1st. Professor Smyth reports them at



PHOTO BY V. BURTCH.

THE HOME OF THE TOWHEE.

Blacksburg from October 5th to March 11th, but not as a breeding bird in that section. The bird is a fairly common breeder, though, in the upper section of our State near the Maryland line, the marshes bordering the brackish streams affording the surroundings so liked by these birds. Along the borders of these open marshes one finds their nests, placed in a clump of grass on some hummock or elevated knoll, and concealed entirely from the eye by overhanging vegetation. The nest is composed of fine marsh grasses and lined with finer grasses. The eggs number four to five, the ground a pale greenish, spotted and specked with blackish-brown and chestnut. The markings vary greatly in color, though the greenish ground makes them easily distinguishable from those of the Song Sparrow, as well as being a trifle smaller. Size, .75x.55. Although it is a rare occurrence, I have taken eggs of this species as far south as Elizabeth City County. Fresh eggs May 25th to June 7th. Their food consists of grass and weed seeds, insects, and the smaller worms and grasshoppers, found in, and bordering closely, their swampy retreats. They rear but a single brood a season.

GENUS PIPILO.

[587]. *Pipilo erythrophthalmus erythrophthalmus*
(*Linnæus*). Towhee.

[Ground Robin. Wood Robin. Chewink].

RANGE.—Eastern North America. Breeds in Transition and Upper Austral zones east of the Great Plains from southeastern Saskatchewan, southern Manitoba, southern Ontario, and southern Maine south to central Kansas and



PHOTO BY THE AUTHOR.

A YOUNG TOWHEE.

northern Georgia; winters from southeastern Nebraska, the Ohio and Potomac valleys (casually New England) to central Texas, the Gulf Coast, and southern Florida.

A very common bird in our Alleghenian zone. Mild winters may remain with us, but the migratory birds begin to arrive from the south about April 1st, and on the 10th are with us in numbers. A bird of the woods, thick second growth, and swampy places, it is rarely seen by the average visitor to the country, although a fairly common and abundant species. It can, however, be readily distinguished by the call notes or song, its "Chewink, chewink, chewink" being so plainly heard as to readily place the bird in a class of its own. Nest building commences the middle of April, and four to five eggs are deposited in the well-made nest of dry leaves, pine needles, strips of bark, and grasses, lined with fine grasses and rootlets. The nest is placed on the edge of, or in the woods, or second growth, under some bush and on the ground, or within a few inches of it. The eggs are grayish-white, finely specked, spotted or blotched, with reddish-brown. Size, .90x.70. Often two broods a season. Northern birds migrating southward arrive about October 27th. While they are a bird of the woodland and procure their food almost entirely therein, the great amount of insects, spiders, and larvæ eaten, must place them in the list beneficial to agriculture.

GENUS CARDINALIS.

[593]. *Cardinalis cardinalis cardinalis* (Linnæus).

Cardinal.

[Redbird].

RANGE.—Carolinian and Austroriparian zones east of the Great Plains from southeastern South Dakota, southern Iowa, northern Indiana, northern Ohio, southern Ontario (locally), southeastern and southwestern Pennsylvania, and southern Hudson Valley south to the Gulf States (eastern Texas to northern Florida); casual in Minnesota, Wisconsin, Michigan, New Brunswick, Massachusetts, and Connecticut; resident in Bermuda.

This is the most highly colored plumaged bird that remains throughout the winter with us, and with the first warm days of early spring he commences to sing, keeping it up until well into the middle of July, or about the time a second brood is leaving the nest. As he is an expert songster, as well as a fine looker, large numbers were taken for cage birds throughout the South until lately, when good laws have put an end to this traffic. The beautiful scarlet coat and crest make them very conspicuous, and unfortunately many fall prey to the so-called sportsmen's gun if game is scarce. The nest is rather a loosely made structure of grasses, weed stems, strips of bark, dry leaves and fine rootlets, lined with fine grasses. Three to four eggs is a full set, generally three, grayish-white, spotted, specked and blotched with reddish-brown or lavender. A series shows a great variation in color and markings. Size, .99x.69. Nests are placed in second-growth bushes, vines, small trees, such as pines,

post oaks, and cedars; in fact, any suitable location from four to nine feet above ground. Two broods are generally raised, April 8th to 15th, the former being the earliest set of eggs found, while second sets come along about May 15th to June 1st. The female is not a close sitter, leaving the nest on the near approach of danger. There is little danger of conflicting the Cardinal with our other red-plumaged birds, the Summer Tanager, or Scarlet Tanager; for the crest on the head of both male and female Cardinal is not found with the other species, and their plumage is much more brilliant and of a darker shade of red. Their food consists of insects, small grain, and a large variety of seeds, while in the fall the dogwood, black-gum, poke berries, and wild grapes form a great part of their food. I consider them a beneficial bird, as well as one of our most attractive ones.

GENUS ZAMELODIA.

[595]. *Zamelodia ludoviciana* (Linnæus). *Rose-breasted Grosbeak.*

RANGE.—Eastern North America and northern South America. Breeds in Lower Canadian and Transition zones from south central Mackenzie, northern Manitoba, central Ontario, southern Quebec, and Cape Breton Island south to central Kansas, central Missouri, central Ohio, central New Jersey, and in mountains to northern Georgia; winters from southern Yucatan and Mexico to Colombia, Venezuela, and Ecuador; casual in migration in Cuba, Jamaica and the Bahamas; accidental in Arizona, Colorado, and California.



PHOTO BY THE AUTHOR.

NEST OF THE BLUE GROSBEAK IN YOUNG PEAR TREE.

THIS WAS THEIR THIRD SETTING AND CONTAINED YOUNG ON AUGUST
28TH. NOTE HOW THE LEAVES HAD BEGUN TO FALL
FROM THE TREE.

This species is not a common bird even in our mountain region. My father found a nest with young at Hot Springs, August 1, 1911. Professor Smyth reports it as "A rare spring and fall migrant, and breeds in Taylors Valley, near White Top Mountain." He also reports it as a migrant April 29th to May 3rd, and September 23rd for the vicinity of Blacksburg. The following data is from sets in my collection which I took at Mountain Lake. Fresh eggs, four in number, May 25th to June 10th, a greenish-blue ground color, heavily blotched with brown. Size, .98x.68. The nests are constructed of twigs, rootlets, and weeds, a loosely made structure like those of the tanagers, and placed in a bush or tree, from five to twenty feet up. Their food varies greatly according to conditions. Sometimes they destroy much small fruit and fruit buds, while at other times insects form the greater part of their food. They are, however, so few with us even during migration, that they can not be considered either beneficial or harmful to any extent. At Mountain Lake, Giles County, only two pair were found; breeding in the tall tops of the rhododendrons.

GENUS GUIRACA.

[597]. *Guiraca caerulea caerulea* (Linnæus). *Blue Grosbeak.*

RANGE.—Eastern North America. Breeds in Carolinian and Austroriparian zones from Missouri, southern Illinois, and Maryland south to eastern Texas and northern Florida; winters in Yucatan and Honduras; casual in southern Indiana and southern Pennsylvania; accidental in Wisconsin, New England, the Maritime Provinces, and Cuba.

Like the following species, it derives part of its name from the plumage of the male; and a handsome blue it is. But its only comparison with the Indigo Bunting lies in its color, for, as a songster, it is found sadly wanting, its chief note being a loud chirp. A late arrival in the spring, about April 26th, nest building seldom commences before May 10th. My earliest record for eggs is May 31st. The female seems to have a preference for securing the nest material, or most of it, from around the barn and outbuildings of the farm, grasses and straws dropped from the loads of hay, being used in the main foundation. Second growth bushes, such as oaks and locust, are preferred, and seem to be their natural nesting sites, while around my farm they resort to the grape vines trailed on longitudinal wires, and young trees in the orchard, notably pear and cherry. A single pair coming under my personal observation during the season of 1910, had three sets of three eggs each, two broods being raised, first and last. The first set, June 3rd, second set August 5th, and last set, young just hatched August 26th. I do not think, as a rule, second broods are always undertaken. The nest is rather a handsome affair, and is well made, from three to four feet up, placed in an upright crotch and composed of weed stems, dry leaves and leaf skeletons, grasses and straws, snake skins and plant down; lined with fine grasses or horse hair. Three to four eggs is a complete set. Size, .85x.65. Pale bluish-white, unmarked. The female is a close sitter, often allowing one to almost touch her before flushing. While they undoubtedly took some grapes for the seed, when having young in my vineyard, their preference is for seeds, and one can always find a pair of them feeding in the early rye and oat fields, though their damage is so slight as to be unnoticeable. Later on, as the weed stalks furnish



PHOTO BY F. N. IRVING.

NEST AND EGGS OF THE INDIGO BUNTING.

seed, we find these birds visiting the patches regularly, thus making them a desirable bird to have around one's farm. They depart for the south about August 28th, while those coming from further north pass through about September 12th to 17th.

GENUS PASSERINA.

[598]. *Passerina cyanea* (Linnæus). *Indigo Bunting*.

RANGE.—Eastern North America. Breeds chiefly in Transition and Austral zones east of the Great Plains from east central North Dakota, central Minnesota, northwestern Michigan, southern Ontario, southern Quebec, and southern New Brunswick south to central Texas, southern Louisiana, central Alabama, and central Georgia; winters from Morelos, Yucatan, and Cuba through Central America to Panama; occasional in the Bahamas in migration; casual in eastern Colorado, southern Saskatchewan, and southern Manitoba.

In this bird we have one of the most beautiful summer residents, well named from the male's handsome indigo dress, and quite the extreme in color from the following species. Second growth bushes bordering our roads and fields are his favorite haunts, while the telegraph wires seem to have been made expressly for him to perch on and pour forth his liquid song. Quite the contrary to her highly colored mate, the female is seldom seen on the wires, or much in evidence until found sitting on her three to four pale bluish, unmarked eggs. The nest is a well-made structure, placed in an upright crotch of a low bush, blackberry bush or vines, from two to four feet above ground, and is composed of fine grasses and weed

stems, plant down and leaf skeletons, and lined with fine grasses. Fresh eggs may be found from May 27th until June 12th. Size, .75x.52. They do not winter with us, and are one of the last birds to arrive, about April 28th to May 2nd. A second brood is not unusual, the eggs being deposited about July 15th. Like the Blue Grosbeak, they may be found feeding on some of the early rye and oat heads, but very sparingly, their chief diet being various insects gathered in and around the borders of ditch bank hedges, and second growth. They depart from this section about August 15th, and during the summer seem to be sparingly distributed over our whole area.

FAMILY TANGARIDÆ.—TANAGERS.

GENUS *PIRANGA*.

[608]. *Piranga erythromelas* (Vieillot). *Scarlet Tanager*.

RANGE.—Eastern North America and northern South America. Breeds mainly in Transition and Upper Austral zones from southeastern Saskatchewan, central Manitoba, central Ontario, southern Quebec, New Brunswick, and Nova Scotia south to southern Kansas, northern Arkansas, Tennessee, northern Georgia, and mountains of Virginia and South Carolina; winters from Colombia to Bolivia and Peru; migrates through Cuba, Jamaica, and Yucatan, and along the east coast of Central America; casual in migration in Wyoming, Colorado, the Bahamas, and and Lesser Antilles.

As a breeding bird, this species is not abundant with us, though during the spring and fall migrations it is quite common. Professor Smyth reports it in the vicinity of Blacksburg from April 29th to May 9th, and again August 22nd to September 23rd. My father found it breeding at Goshen June 9th, though rare, also at Hot Springs. The nest is similar to that of the Summer Tanager, a loosely made structure of weed and grass stems, and rootlets; lined with finer material of the same. The eggs number three to four, a pale blue ground, spotted and blotched with brown of various shades. For a nesting site they prefer trees on the outer edge of woods or clearings, placing it near the extremity of the limb, from

ten to forty feet up. Their food consists chiefly of insects and caterpillars gathered from the higher foliage, though wild fruit, such as cherries and mulberries, and berries, are also eaten. They rear but a single brood each season. The eggs are slightly larger than the Summer Tanager, averaging .96x.67. I found a few pair breeding at Mountain Lake, Giles County, elevation 4,500 feet.

[610]. *Piranga rubra rubra*. (Linnæus). *Summer Tanager*.

[Summer Redbird].

RANGE.—Southeastern United States and northern South America. Breeds in Carolinian and Austroriparian zones from southeastern Nebraska, southern Iowa, southeastern Wisconsin, central Indiana, southern Ohio, Maryland (formerly New Jersey), and Delaware south to northeastern Mexico and central Florida; winters from central Mexico and Yucatan to Ecuador, Peru, and Guiana; stragglers north to New Brunswick, Quebec, Nova Scotia, Maine, and Ontario; migrant in western Cuba; accidental in the Bahamas.

A beautiful bird, especially the male, but a lazy pair when it comes down to nest building. Seldom it is that you can't walk along some path on the edge of a piece of woods, or that bordering the main country road, and look up through a flimsy-made nest of these birds, and see the eggs. In this respect they may be classed with the Mourning Dove and the Green Heron. Don't misjudge these remarks and think you can go along any road or path and see nests easily, for they are not an over-common



SUMMER TANAGER

bird with us, though suitable localities seldom fail to have their single pair. The casual observer is apt to confuse them with the Cardinal, especially during the breeding season, on account of the height of the nest, often not six feet from the ground. The nest is placed on the crotch of a lower limb of a tree, an oak, dogwood or pine, generally. Three to four eggs is a complete set with us, a pale bluish-green, spotted and blotched with reddish-brown. Size, .92x.64. Fresh eggs May 20th to June 12th. They do not winter with us. Nest composed of fine straws or grasses, loosely made, or woven together. Only one brood a season. The spring migratory birds reach us about April 17th, and depart southward August 5th to 8th. Their song is uttered from the tree tops, seldom when in close proximity to the nest or ground, and is rather pleasing to the ear, though it never varies, being confined to three notes, and a short stanza similar to the Red-eyed Vireo. Long distances are made in search of food and nesting material, the male following his mate back and forth while nest building is going on. While they are not an abundant bird with us, still the amount of food taken from the higher foliage, such as caterpillars, beetles, and larvæ, must be reckoned with, and places them in the beneficial list. Single pairs are scattered sparingly over our whole area.



PHOTO BY THE AUTHOR.

NESTING BOX ERECTED FOR AND OCCUPIED BY A COLONY
OF PURPLE MARTINS.

FAMILY HIRUNDINIDÆ.—SWALLOWS.

GENUS PROGNE.

[611]. *Progne subis subis* (Linnæus). *Purple Martin*.

[House Martin].

RANGE.—North and South America, except the Pacific coast region. Breeds from west central Alberta, southern Saskatchewan, central Manitoba, northwestern Ontario, New Brunswick, and Nova Scotia, west to Montana and Idaho, and south to the Gulf Coast, Florida, Vera Cruz, and Jalisco; occurs in migration in Venezuela and Guiana and winters in Brazil; accidental in Bermuda and the British Isles.

This is the largest of the swallow family, and one of our most useful birds, especially so, should we have poultry around, and small chickens running loose. As a protection from hawks and crows, I do not place them second to the Kingbird, but both on an equal footing. There is no doubt but what they are diminishing in numbers, and it seems strange that they should when so much is done to help them raise broods. The two reasons for decrease in this section is the introduction of the arc (electric) light in our cities, and the black snake, with possibly some mortality now and then from a long rainy spell, when young are just hatched and are partly grown. Year after year they return and try and build up under the tin top of the arc lights, invariably to be torn down every morning or so, by the attendant when fixing the light. Sometimes a whole season is wasted in this manner. Probably

many eggs and young are destroyed by black snakes climbing the poles on top of which is attached the box or bird house erected by those desiring them around. While I have never personally seen a black snake in a martin box, I have seen them in other artificial nesting sites, such as Bluebird, House Wren, and Crested Flycatcher, which I had put up on my farm. A long rainy spell checks the insect food supply materially, often resulting in the loss of many young birds. The nests are generally placed in some box or house made for them, placed on top of a pole; many also building on ledges under the wide, overhanging roofs of houses. I do not know of a case in this section of their resorting to their old habit of building inside a hollow tree. Nests are composed of grasses, pine needles, straw, or weed stems, lined with a few green leaves and feathers. Eggs, white, four to five in number. Size, .95x.65. May 3rd to 25th finds a full set of eggs. They do not winter with us, arriving about April 4th. Occasionally they raise a second brood, June 15th. During the time the eggs are being incubated, the birds keep the nest supplied with green leaves, deposited around the rim, and continue to do so until the young are partly grown. Aside from their being beneficial as a poultry protector, the enormous amount of insect food taken while on the wing, classes them as one of our most beneficial birds. The colony remains around the box a short time after the young are able to fly, returning each night to roost in the box until they migrate southward, about August 6th. Those coming from further north pass through in flocks until September 10th.

GENUS PETROCHELIDON.

[612]. *Petrochelidon lunifrons lunifrons* (Say). *Cliff Swallow*.

[Eave Swallow].

RANGE.—North America. Breeds from lower edge of the Arctic to Lower Austral zone from central Alaska, upper Yukon Valley, north central Mackenzie, southern Keewatin, northern Ontario, central Quebec, Anticosti Island, and Cape Breton Island south over nearly all of the United States except Florida and the Rio Grande Valley (casual as a breeder south of latitude 38° east of longitude 97°); also along the coast district of western Mexico to Tepic; migrates through central America and probably winters in Brazil and Argentina.

While not quite so common as the following species, they are well represented all over Virginia. Like the Purple Martin, their numbers seem to be diminishing, but certainly not from having their nests destroyed like the Martins that try and build in the arc lights. There is no need for them to resort to their ancient custom of building on the face of a cliff, for buildings with overhanging eaves there are in plenty, nor do the farmers, as a rule, disturb them. They are, however, rapidly diminishing as a breeding bird with us in Tidewater. Arriving a little later than the Barn Swallows and Martins, about April 20th, nest building commences almost at once if mud is easily procured, and their little semi-round beehive of a nest with hole in one side is soon stuck to the rafters under the eaves of the barn or shed. A few fine grasses or straws on the inner surface, with a goodly lin-

ing of feathers, completes it; in which are laid from four to five creamy-white eggs, spotted and specked with reddish-brown and lilac, being indistinguishable from those of the Barn Swallow, both in size and color. Size, .80x.55. Fresh eggs May 3rd. Occasionally a second brood. A most interesting sight is to sit by the well or pump and watch them procure mud from a wet spot caused by the overflow from the horse trough, carry it to the near-by building, and attach it to the side of the rafter, adding to it bit by bit until the half circle is complete. Often a long spell of wet weather keeps the mud from drying out and hardening, causing it to break away from the rafters and come tumbling down, thus compelling the birds to start all over once again; or, if a dry spell comes during nest building, the season is thus postponed until mud can be procured, lengthening out their breeding season. They are an interesting bird to have around one's premises, the constant twittering being kept up until they depart in company with the Barn Swallows, about August 8th. Large flocks of these mixed birds from the north continue to pass through until the middle of September. They are of much benefit around the premises, gathering in numerous varieties of insects while in flight, especially flies from around the barns and stables.

GENUS HIRUNDO.

[613]. *Hirundo erythrogastra* (Boddaert). Barn Swallow.

RANGE.—North America. Breeds from northwestern Alaska, northern Mackenzie (Great Bear Lake), southern Manitoba, and southern Ungava south to southern Cali-

ifornia, southern Texas (west of longitude 97°), northern Arkansas, and North Carolina, and in Mexico south to Jalisco and Tepic; migrates through the Bahamas and the West Indies and winters from southern Mexico to Brazil, northern Argentina, and central Chile; accidental in the Galapagos, Bermuda, and Greenland.

There is no doubt but that the swallows add more to the beauty of the farm than any other bird, to say nothing of the benefit done by the multitudes of insects destroyed by them. The Barn Swallow especially, with his graceful flight and twitterings in and around the buildings, is a most sociable little fellow, and after once establishing his nest on some sill or rafter in one of the outbuildings, seems to mind very little the presence of man. Under some wharf on a ledge or rafter is another favorite site for a nest, while the greatest colony for a small place I think I ever saw, was in the life-saving surf boathouse on the back of Smith Island, Va. The shed was some thirty-five or forty feet long, by twelve feet wide, open at the south end, and sitting up on piles about six feet above high water. There must have been at least one hundred pairs of birds occupying this ideal place. The nest is composed of mud, straws and grasses, lined with feathers, and is attached to the side of, or on, some beam or joist. The eggs number three to five, creamy-white, spotted and specked with reddish-brown and lilac. Size, .80x.55. They do not winter with us, arriving in numbers about April 14th, and commence nest building by May 5th. Fresh eggs May 12th; second broods quite common, June 28th. Weather conditions affect nest building materially, for unless near some mud hole, muddy bank of stream, or other likely place, they are unable, during

dry weather, to procure mud for the foundation of their nests. They migrate in large flocks with the preceding species about August 1st to 8th, and are similar to the Eave Swallow in habits and food. They can, however, be easily distinguished from that species when in flight and at rest, by their forked tail; the Cliff Swallows having the tail feathers even.

GENUS IRIDOPROCNE.

[614]. *Iridoprocne bicolor* (Vieillot). *Tree Swallow*.

[White-bellied Swallow].

RANGE.—North America. Breeds in Canadian, Transition and Upper Austral zones (and Lower Austral zone in Virginia) from northwestern Alaska, southern and western Mackenzie, southern Keewatin, and northern Ungava to southern California, Colorado, Kansas, Missouri, and Virginia; winters from central California, southern Texas, southern parts of the Gulf States, and southeastern North Carolina (casually New Jersey) south over the greater part of Mexico to Guatemala and Cuba; occasionally in Bermuda in migration; accidental in the British Isles.

The favorite homes and haunts of this beautiful swallow are among the dead pine trees and stumps along our seacoast, and islands adjacent. Many a time when on my way up some lofty dead pine en route to the Osprey's nest at the tiptop, have I stopped for breath and a chance to peek into some deserted woodpecker's hole, occupied by a pair of these birds. At that period around

May 5th, it is somewhat early for eggs, but the nest is well under construction, of fine straws and grasses, lined with feathers. May 25th to 30th finds full sets of eggs, four to six in number, pure white. Size, .75x.50. Sociable little fellows, they take kindly to civilization and advantage of any hole in the house, weather-boarding or outbuildings, to use as a nesting cavity. I remember well the first nest I found in a building, a knot having dropped out of the weather-boarding over a window sill in a house on one of the islands off our coast. We could easily stand on a barrel and see the four well-feathered young, while the old birds lit on the eaves and watched us intently, not more than four feet away. They do not winter with us, arriving in numbers by April 1st, my record arrival being March 21st, 1912. Our local birds begin to migrate southward about September 1st, but as late as October 25th still finds the northward birds passing through in countless numbers. During this time thousands may be seen perched on the telegraph wires along the roadside, or skimming over some corn or hay field, gathering in winged insects of all sorts, which form their principal food. They are a most beneficial bird, though they raise but one brood a season. They do not nest in our section except in Northampton and Accomac counties, and then principally on the islands off the mainland.

GENUS RIPARIA.

[616]. *Riparia riparia* (Linnaeus). *Bank Swallow*. ‘

RANGE.—Northern Hemisphere. In North America breeds in Boreal, Transition, and Austral zones from near limit of trees in northern Alaska and northern Ungava

south to southern California, Arizona, Texas, Louisiana, and Virginia; migrates through Mexico and Central America (casually West Indies), and probably winters in South America to Brazil and Peru.

This species is somewhat similar to the following one, although it is not as common throughout our area. It arrives along with the Rough-winged Swallow, April 1st, and departs about August 1st. They prefer the inland banks for nesting sites, such as railway cuts and around ponds and lakes, thus their homes are more secluded than the Rough-winged Swallow, which prefers the open river bank. One can easily identify their nesting cavities, for the Bank Swallow makes a round hole, while the Rough-winged makes an elongated hole, the greatest width horizontally. The nest is composed of fine straws and dry grass, lined with finer grass and sometimes feathers. This is placed at the end of a burrow dug by the birds, from two to three feet back in the bank, the end slightly enlarged and deepened to hold the nest and afford room for the birds. Four to six eggs are laid; May 5th to 10th finds full sets. Size of eggs, .70x.49; a dull white, unmarked. The birds procure all their food while on the wing, which differs little from that of the Rough-winged Swallow. They probably procure more gnats and mosquitoes than the following species, as these are always more numerous around their inland habitat than along the open river bank. Many are killed by the soft embankments caving during wet weather, as well as by snakes catching them on the nest. While they are not an abundant bird with us, they undoubtedly do much good in helping to keep down some of our local pests.

GENUS STELGIDOPTERYX.

[617]. *Stelgidopteryx serripennis* (Audubon). *Rough-winged Swallow*.

[Sand Martin].

RANGE.—North America. Breeds in Transition, Austral, and Tropical zones from southern British Columbia, Montana, North Dakota, Minnesota, southern Wisconsin, Ontario, southern New York, central western Massachusetts, and Connecticut south to southern United States from southern California to northern Florida, and to Vera Cruz and Jalisco; winters from central Mexico southward to Costa Rica; casual in Manitoba.

The earliest swallow to depart in the fall, August 5th, and the earliest to arrive in the spring, March 25th, is the Rough-winged. April 4th, some years, finds them with us in numbers, though the main body may not arrive until one or two weeks later. By the last week in April, though, all those that remain to breed have their holes in the river banks well excavated. Complete sets of fresh eggs are found as early as May 2nd. Undoubtedly, they rid the surrounding country of many noxious insects, such as sand flies, mosquitoes, gnats, etc., and, like the other species of swallows, should be encouraged to breed near houses where possible. With their large families, five and six being the general run, they are kept busy from daybreak until almost dark, still being found on the wing after most birds have retired to their roost for the night. The mortality in this section is great, their chief enemy being the black snake, which, after sunning itself on some protruding root on the river bank, crawls

into their hole or nesting cavity for food. The poor bird is caught like a rat in a trap, and, unlike the kingfisher with his sharp beak, stands no chance of protecting itself, eggs, or young. It is needless to say that the cases that have come under my observation have found the snake well filled, and that I have taken pleasure in laying him out cold in more ways than one. Eggs, four to six in number, pink when with fresh contents, and pure white when blown. The nest, which is composed of dry pine needles, grass, small leaves and seaweed, lined with fine grasses and seaweed, is placed in a slight depression at the end of a burrow or hole in a bank, from two to five feet from entrance. I find the length of cavity depends much on the character of the soil in which it is started. Weather conditions also make a moist or hard soil for them to work in. Size of eggs, .75x.52. They raise but a single brood with us. The height of nesting cavity in the bank also varies greatly, the nature of the soil stratas affecting the drilling of the hole, which is made by the birds using their feet to scratch with, and push the dirt backward out of the tunnel. Unlike the kingfisher, their beaks play a secondary part in the drilling of their home, so they usually select a place in the soft strata where the roof will be the under side of a hard strata of soil, and so eliminate the chances of a cave-in.



PHOTO BY C. F. STONE.

HOME OF THE CEDAR WAXWING.

FAMILY BOMBYCILLIDÆ.

GENUS BOMBYCILLA.

[619]. *Bombycilla cedrorum* (Vieillot). Cedar Waxwing.

[Cedar Bird. Cherry Bird].

RANGE.—North America. Breeds in Canadian, Transition, and Upper Austral zones (and Lower Austral zone in Virginia), from central British Columbia, central Alberta, southern Keewatin, northern Ontario, north-western Quebec, and Cape Breton Island south to southern Oregon, northern New Mexico, Kansas, northern Arkansas, and North Carolina; winters throughout nearly all the United States and southward to Cuba, Mexico and Panama; accidental in the Bahamas, Bermuda, Jamaica, and British Isles.

A most common bird with us during the fall migrations about October 1st, when, in large flocks from twenty to a hundred birds, they feed on the black-gum berries and those of the mistletoe. I attribute the spread of the mistletoe in this section more to them than from any other cause. During the spring migration, March 15th, they feed largely on holly berries, as the ones fed upon during the fall are entirely gone. Some few remain with us through the winter, but the greater amount go further south. Only a few remain to breed with us in the low country, especially on the lower side of the Chesapeake Bay. From Cape Charles northward they become more common breeders. The nests I have found were located

near the extremity of the limbs of large, spreading pines, from twenty to forty feet up, composed of dry grass, pine needles, strips of bark, and lined with bark fiber. Fresh eggs June 15th to 20th, from four to five in number, grayish-blue when freshly taken, spotted and blotched with black, or blackish-brown. Size, .85x.60. They undoubtedly lay two broods, as my father has taken fresh eggs August 8th, though this record was in the western part of the State. In some sections they do much damage to small fruit, cherries in particular, but there is so much wild food with us, that they practically do no damage.



PHOTO BY THE AUTHOR.

NEARLY READY TO LEAVE.

YOUNG SHRIKE.

FAMILY LANIIDÆ.—SHRIKES.

GENUS LANIUS.

[622-E]. *Lanius ludovicianus migrans* (W. Palmer)
Migrant Shrike.

[Butcher Bird].

RANGE.—Eastern North America. Breeds chiefly in Transition and Upper Austral zones from northern Minnesota, Wisconsin, Michigan, southern Ontario, southern Quebec, Maine, and New Brunswick south to eastern Kansas, southern Illinois, Kentucky, western North Carolina, and interior of Virginia (locally in the east); winters from the Middle States and southern New England to Texas, Louisiana, and Mississippi.

This is rather a rare species with us, though a few are found breeding in the northern part of our area, both on the Cape Charles Peninsula, and the mainland west of the Chesapeake Bay. They are known as the Butcher Bird from their manner of catching small sparrows and juncos and impaling them on the spikes of a barbed wire fencing, osage orange and thorn trees. While they do take many small birds, they also destroy many small mice, shrews, grasshoppers, frogs and insects, which more than offsets the harm done. In killing small birds they display much skill and courage, often capturing a bird almost as large as themselves, and which they find difficulty in flying with to some near-by place of execution. When once fastened, though, they make short work of their victim with their powerful hooked beak. The nest is a

bulky affair of twigs, rootlets, weed stems and grasses, well lined with feathers, wool, or hair. They are generally placed on a low, horizontal limb of a roadside tree, or in the thick young sprouts of a beheaded tree, from ten to thirty feet up. The eggs number five to six, a dull grayish-white, spotted and blotched with light brown and olive, often forming a wreath around the larger end. Size, .99x.71. Fresh eggs April 26th to May 5th. Only one brood a season. They are somewhat more numerous during the spring and fall, April 1st, December 20th, but even then they are not a common bird with us.



PHOTO BY C. F. STONE.

RED-EYED VIREO ON NEST.

FAMILY VIREONIDÆ.—VIREOS.

GENUS VIREOSYLVA.

[624]. *Vireosylva olivacea* (Linnæus). *Red-eyed Vireo*.

RANGE.—North and South America. Breeds in Canadian, Transition, and Austral zones from central British Columbia, southern Mackenzie, southern Keewatin, northern Ontario, Anticosti Island, and Cape Breton Island south to southeastern Washington, southern Montana, eastern Wyoming, eastern Colorado, western Texas, northern Coahuila, and central Florida; migrates through eastern Mexico, Yucatan and Central America (casually to Cuba and the Bahamas); winters in Colombia and south to Ecuador and southern Brazil; accidental in Nevada, Greenland, and England.

This bird is a tolerably common breeder with us, though not as much so as the White-eyed Vireo. Truly a bird of the woods, its beautiful song during the hot summer morning suggests coolness itself. The nest is placed near the extremity of a limb of a fair-sized tree or bush overhanging bank of pond or stream, from four to fifteen feet up, suspended between the crotch. They are extremely well-made affairs of fine grasses, plant stems and down, bits of rotten wood, bark fiber, and pine needles, invariably lined with reddish material, such as cedar bark fiber, pine needles, fine grasses or other material of like color. How this beautifully made structure, seen in the dead of winter when hunting for game, recalls pleasant memories of bygone summer days! Fresh eggs May 15th to 30th,

three to four in number, white, sparingly specked with dark or light reddish-brown. Size, .85x.55. The egg of the Cowbird (*Molothrus ater ater*) is not an uncommon, though unwelcome, addition to this household. They do not winter with us, arriving about April 12th, and migrating southward about August 27th to 30th. It is probable that they raise two broods some seasons. Their food consists of numerous moths, insects, spiders, and the smaller caterpillars; many are taken on the wing similar to that of the flycatchers. They are about evenly, though sparingly, distributed over Tidewater, and become more numerous as we go westward into the State.

[627]. *Vireosylva gilva gilva* (Vieillot). Warbling Vireo.

RANGE.—Eastern North America. Breeds in Transition and Austral zones from southeastern Alberta, northern Manitoba, central Ontario, and Nova Scotia south to northwestern Texas, southern Louisiana, North Carolina, and Virginia; winter home is unknown but south of the United States.

This is the least common of all the vireos found within our area. Unlike his cousin, the White-eyed Vireo, he is a bird of the high foliage, even more so than the Red-eyed, and procures his food and builds his nest seldom below thirty or forty feet. They arrive about April 5th, and migrate southward about the same time as the Red-eyed Vireo. They may be called a sociable bird, for they prefer the shade trees of gardens, yards, parks and streets to that of the woodland, though the inaccessibility of their nest makes close companionship or study almost

impossible. The nest is an extremely well-constructed affair of fine grasses, fibers, dry leaves and bits of bark fiber, lined with fine grasses or bark fiber. Like the other members of the family, the nest is suspended between the fork of a small branch, and is deeply cupped. The eggs number from three to four, a dull glossy white, sparingly marked with reddish-brown. Size, .70x.50. These birds are more numerous near the northern and eastern boundaries of our area. Their food is similar to that of the Red-eyed Vireo, but procured from foliage at a height seldom reached by the Red-eyed, and I think their song far more beautiful than that species. We must consider them a beneficial bird in keeping down the many insects found amongst our cultivated shade trees.

GENUS LANIVIREO.

[628]. *Lanivireo flavifrons* (Vieillot). *Yellow-throated Vireo*.

RANGE.—Eastern North America. Breeds in Transition and Austral zones from southeastern Saskatchewan, southern Manitoba, southern Ontario, southern Quebec, and Maine south to central Texas, central Louisiana, and central Florida; winters from Yucatan and southern Mexico through Central America to Colombia; casual in winter in Cuba and the Bahamas.

A rare bird in this section, also the earliest of the vireos to breed, only one nest with eggs falling to my lot in twenty years. A handsome affair it was, too, only the mass of spider-webs on its outside attracting my attention. The nest was in a spruce pine tree in the thick pine woods,



82.

YELLOW-THROATED VIREO

about thirty feet from the ground, six feet from the trunk, and suspended between a small fork, after the manner of vireos' nests in general. It was composed of fine grasses and bark fiber. The female was such a close sitter that it was not until I had left it for a week after discovery, that I persuaded myself to climb to the supposed-empty nest, only to find, to my surprise, however, that it had been occupied all the time, as the eggs were nearly hatched. The female allowed me to come within three feet of her before flushing, and was collected to make identification certain. The eggs numbered four, white, specked with brown sparingly; more numerous toward the larger end. Size, .78x.58. Fresh eggs May 1st. Though we located one or two pairs of birds each season by their beautiful song, we could not locate further nests with eggs. Judging by the birds, they are extremely rare, though scattered over our entire area. They arrive about April 8th, departing from us about September 1st. Breeding as they do, so early in the season, and remaining in song well into July, leads me to believe they raise two broods, though I have no positive record of their doing so. Their food is similar to the other vireos', though procured almost entirely from the higher tree tops.

[629-C]. *Lanivireo solitarius alticola* (Brewster).

Mountain Vireo.

RANGE.—Breeds in Canadian and Transition zones in the Alleghenies from western Maryland to eastern Tennessee and northern Georgia; winters in lowlands from South Carolina to Florida.

This subspecies of the Solitary or Blue-headed Vireo breeds in our higher mountains. Dr. Rives found it com-

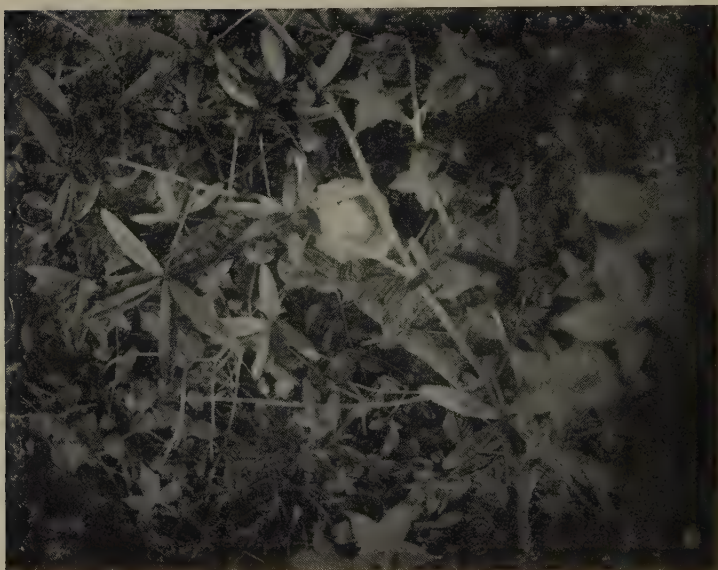


PHOTO BY THE AUTHOR.

A WHITE-EYED VIREO'S NEST.

mon at White Top Mountain in July, 1888, but did not find positive evidence of its breeding. It was not until May 30th, 1913, that I had positive evidence of its breeding in our State, my father finding on that date a nest suspended from a lower limb of a giant balsam growing on the edge of Mountain Lake. It contained three half-grown young, which, with the parents, were collected. They are a rare breeding bird with us, and their habits and food differ little from that of the Yellow-throated Vireo. On June 2nd I found another nest of this species, which, on the completion of the set of eggs, was collected with the parent birds. Their song is similar to that of the Red-eyed Vireo, but much more harsh. Isolated pairs are scattered widely apart, and the nests extremely hard to locate. The construction of the nest, material used, and eggs, are almost identical with those of the White-eyed Vireo. Two broods a season, second settings July 1st. Another nest, with young, was located on a lower limb of a very large rhododendron, growing on the side of a ravine.

GENUS VIREO.

[631]. *Vireo griseus griseus*. (Boddaert). *White-eyed Vireo*.

RANGE.—Eastern United States. Breeds chiefly in Austral zones from southeastern Nebraska, southern Wisconsin, New York, and Massachusetts to central Texas and central Florida; winters from Texas, Georgia, Florida, and South Carolina through eastern Mexico to Yucatan and Guatemala; casual north to Vermont, Ontario, New Brunswick, and in Cuba.

This is the most common vireo of all the resident species. A sorry clump of second growth or bush-fringed woods it is that hasn't a pair of these birds nesting in it. The bubbling spring, with its cool outlet for bird bathing purposes, also is seldom without a nesting pair within a yard or two, often overhanging the sparkling pool itself. How they do scold an intruder in their domain! The nest is suspended between a crotch of a limb of bush or tree, from two and a half to six feet from the ground. Like those of our warblers, the Cowbird (*Molothrus ater*) has no scruples in depositing her egg or eggs in this bird's nest, and I have found more White-eyed Vireos' nests with Cowbirds' eggs in them, deserted, than all others birds combined. Their nest is composed of weed stems, grasses, bits of bark fiber, moss, grasses, spider-webs, string and paper; in fact, anything handy that is soft. The nest is lined with fine grasses. Eggs, three to four in number, white, sparingly specked and blotched with brown, more numerous toward the larger end. Size, .75x.55. Fresh eggs May 20th to June 15th, two broods a season. They arrive about April 10th, and migrate southward about August 30th. Their food consists of insects, caterpillars, and worms of various species.



PHOTO BY C. F. STONE.

IN THE WARBLERS' BREEDING GROUNDS.

FAMILY MNIOTILTIDÆ.—WOOD
WARBLERS.

GENUS MNIOTILTA.

[636]. *Mniotilta varia* (Linnæus). *Black and White Warbler.*

RANGE.—Eastern North America and northern South America. Breeds in Canadian, Transition, and Austral zones from central Mackenzie, southern Keewatin, northern Ontario, Newfoundland, Nova Scotia, and New Brunswick to eastern Texas, Louisiana, central Alabama, and northern Georgia, west to South Dakota and casually to Wyoming and Colorado; winters from Colima and Nuevo Leon to Colombia, Ecuador, and Venezuela, and in Florida, the Bahamas and West Indies to Guadeloupe, and casually in southern Texas; accidental in Washington, California, and Bermuda.

The Black and White Creeper, as called by many on account of its habits, is rather a rare breeding bird with us, though most numerous when migrating. Two pair have bred on my own place for the last two seasons, 1909 and '10, though diligent search has failed to find a nest with eggs. The old birds with young just able to fly have, however, been seen later in the season. The first of these birds to arrive in the spring reach us about April 5th, and by the 10th the flight is well under way and numbers greatly increased. The nest is placed on the ground or in the cavity of, or near, a dead stump or log in the woods, and composed of dry leaves, strips of bark and grasses, lined with fine grasses. Eggs, four in number, white,

specked and spotted with reddish-brown, wreathed on the larger end. Size, .64x.52. Fresh eggs May 15th to 20th. Only one brood a season is reared. They are most active birds, going up and down the tree trunks and under side of the limbs, after the manner of the creepers, in search of food, which consists of spiders, larvæ, insects, beetles, caterpillars and moths. One can not but admire the ease in which they work, sometimes head downward, sometimes up, inspecting every crack and crevice in the bark, especially at the base of the limb where it joins the main trunk. Pine trees are their favorite wood with us. There is no doubt but that they help greatly in keeping in check the many insects that attack the bark of that tree. They leave us about August 5th on the southward migration, and those coming from farther north pass through up till August 30th; a few occasionally remain later. We found them a common breeder in the mountains above 3,500 feet altitude.

GENUS PROTONOTARIA.

[637]. *Protonotaria citrea* (Boddaert). *Prothonotary Warbler*.

RANGE.—Eastern North America and northern South America. Breeds in Austroriparian zone and along river bottoms or Carolinian zone from northeastern Nebraska, southeastern Minnesota, southern Wisconsin, southern Michigan, Ohio, central Delaware, and eastern Maryland south to eastern Texas and northern Florida; winters from Nicaragua to Colombia and casually in Venezuela and southern Mexico; apparently crosses the Gulf in migration; accidental in the West Indies and not found in Mexico north of Campeche; casual north to New York,

New England, Ontario, and New Brunswick, and west to Arizona.

A fine songster and rather a common resident in suitable localities, feeding and breeding as it does in and around the swamps, river bottoms and lakes. The Dismal Swamp and its tributaries are the localities where found most abundant in Tidewater, Va., although any old pond or lake with dead stumps in it is a likely home for a pair. The nest is placed in a cavity in a dead log or stump, a few feet above the water, composed of dry leaves, moss, and grasses. The eggs are creamy-white, spotted with reddish-brown, lavender, or chestnut, four in number, and measure .72x.55. Fresh eggs May 10th to 20th. They undoubtedly raise two broods a season. In their northward migration they reach us around April 10th, and depart southward the first week in August. The ponds or lakes in our section seldom have more than two or three pair breeding in or around them, so their food, consisting of caterpillars, ants, larvæ, and other insects taken thereabouts, can not play a very important part in our economic ornithology, but of course must be considered beneficial. They are beautiful birds, especially the male, and a magnificent songster.

GENUS HELINAIA.

[638]. *Helinaia swainsoni* (Audubon). *Swainson's Warbler*.

RANGE.—Southeastern United States. Breeds in Austroriparian zone from southeastern Missouri, southern Illinois, southern Indiana, and southeastern Virginia



SWAINSON'S WARBLER

(Warwick County) south to Louisiana and northern Florida; winters in Jamaica; migrates through Cuba and the Bahamas; casual in Nebraska, Texas and Vera Cruz.

Truly a rare warbler, although throughout the Dismal Swamp region it is numerous, nesting in and on the edge of the cane brakes where it is extremely hard to find. I believe the record for extending its breeding range north of James River falls to my lot,*—a single set of three eggs taken on May 31st, 1908. The nest was placed about three and a half feet up in a crotch of second-growth bush, between the main stems and numerous small branches. The bush was on the edge of the bank of a mill pond and in a thick clump of second-growth bushes. It was composed of dry birch leaves, fine grass stems and pine needles, a small amount of plant fiber and rootlets, lined with fine grasses. Eggs bluish-white, unmarked. Size, .76x.58. Only one brood raised during the season with us. They arrive about April 14th and depart about August 4th. They are fine songsters and a beautiful bird as well. Their food consists of beetles, worms, moths, and other insects gathered in and around the swampy places.

GENUS HELMITHEROS.

[639]. *Helmitheros vermivorus* (Gmelin). *Worm-eating Warbler*.

RANGE.—Eastern North America. Breeds mainly in the Carolinian zone from southern Iowa, northern Illinois,

*See "Auk," Vol. XXV, p. 478.

eastern and western Pennsylvania, and the Hudson and Connecticut River valleys south to southern Missouri, Tennessee, Virginia, and mountains of South Carolina (casually further south); winters from Chiapas to Panama, in Cuba and the Bahamas, and casually in Florida; in migration casually to Massachusetts, Vermont, western New York, southern Ontario, and southern Wisconsin.

This is undoubtedly our rarest breeding warbler, and I have not as yet positively found and identified a nest with eggs or young within Tidewater. They do, however, breed not far north and west of that area, becoming common in the valley and mountain regions. In the spring migration they reach us in numbers about April 26th, while many are found with us around August 24th. They are a ground-loving bird similar to the Ovenbird and Water Thrush, procuring much of their insect food from the near ground foliage and amongst the dry leaves. The nest is placed on the ground under some overhanging bush, or at the foot of a small sapling, on the hillside, or side of a mound preferred. The nest is composed of dry leaves and lined with fine grasses and a few horse hairs. Fresh eggs May 12th to 20th; four to five in number, a glossy-white, specked and spotted with reddish-brown and chestnut, and undermarkings of lavender. Size, .66x.50. They raise but a single brood each season, and as their food is entirely insect matter, they must be reckoned as a beneficial bird along with the others of the warbler family.

HYPOTHETICAL.

GENUS VERMIVORA.

[640]. *Vermivora bachmani* (Audubon). *Bachman's Warbler.*

RANGE.—Southeastern United States. Breeds in Austroriparian zone in southeastern Missouri, northeastern Arkansas, western Kentucky, and near Charleston, South Carolina; and probably in southern Indiana, North Carolina and Virginia; winters in Cuba; in migration occurs in Louisiana, Mississippi, Alabama, and Florida; casual in Virginia and the Bahamas.

This warbler is one of the few species of birds supposed to breed in our Tidewater area, and which I have been unable to gain satisfactory evidence of their having done so. This is not, however, surprising, for Mr. Arthur T. Wayne, of South Carolina, states he "had looked for their nest for nearly twenty-five years before finding it." From the south bank of the James River, to the North Carolina line, there are many suitable places for them to breed in our State, but as yet unfound. Mr. Wayne states "they are a bird of the dense swampy thickets, the nests being placed within one to three feet of the ground, composed of Spanish moss, leaf skeletons, cane leaves and pine needles, lined with a black fiber." The eggs number four and are pure white, unmarked. Size, .61x.46. Judging from the time they breed in Carolina, they should have fresh eggs with us about May 15th to 20th. Their food probably differs little from that of the Kentucky Warbler.



PHOTO BY T. H. JACKSON.

THE LARGE EGG AT THE FRONT OF THE NEST IS THAT OF THE COWBIRD.

NEST OF THE BLUE-WINGED WARBLER.

[641]. *Vermivora pinus* (Linnæus). *Blue-winged Warbler.*

RANGE.—Eastern North America. Breeds from southeastern Minnesota, southern Michigan, western New York, Massachusetts (rarely), and southern Connecticut south to northeastern Kansas, central Missouri, Kentucky, Maryland, and Delaware (casually further south); (Warwick Co., Va.); winters from southern Mexico (Puebla) to Guatemala and casually to Colombia; very rare migrant in southeastern United States south of Virginia and east of Louisiana; occasional in southern Ontario; accidental in the Bahamas.

The 1910 A. O. U. check list does not give this bird's breeding range as far south as the James River Peninsula, Va., though by the following can be seen its southern breeding range on the coast.

It is not a common resident with us, although when it takes a fancy to a place it seems to return each season regularly. Finding two nests with eggs in twenty years is not a great record, and those were found in practically the same place, at the foot of low bushes in the head of a swampy ravine emptying into a mill pond. Both nests were found by my father, one with two eggs of the Blue-winged Warbler and four eggs of the Cowbird, the other set with four eggs, well advanced in incubation. While we have worked this particularly likely spot and many other suitable places, covering a period of twenty years, we have failed to locate other breeding birds with eggs. They undoubtedly are more abundant as we go further northward on the Cape Charles Peninsula. The nests were well concealed, besides being partly arched over, and composed of fine and coarse grasses, small, narrow, dry leaves, and strips of bark; lined with fine grasses.

Eggs dull glossy-white, spotted sparingly with reddish-brown, four in number. May 15th to 25th seems to be the average time for fresh eggs. Size, .65x.50. They do not winter with us, arriving about April 19th to 21st, and depart the first week in August. They are a most retiring bird, and even when with young they are very skillful in hiding and keeping out of one's reach, so different from our other warblers, which, when the nest is discovered, almost come within hand's reach and try and draw you away from it. My observations lead me to believe they raise but a single brood each season. Their food consists of numerous insects, spiders, larvæ, ants, bugs, caterpillars, etc., placing them in the beneficial list of birds.

[642]. *Vermivora chrysoptera* (Linnæus). *Golden-winged Warbler*.

RANGE.—Eastern North America and northern South America. Breeds in Alleghenian zone from central Minnesota, southern Ontario, and Massachusetts south to southern Iowa, northern Illinois, northern Indiana, northern New Jersey, and northern Georgia; winters from Guatemala to Colombia, and casually in southern Mexico; very rare in Florida and southern Georgia; accidental in Manitoba and Cuba.

This warbler arrives in the vicinity of Blacksburg about May 5th, where it breeds sparingly, according to Professor Smyth, who found young in nest June 5th. They migrate southward the latter part of August. They are a bird of the mountain regions, and I have never seen them even in migration in Tidewater Virginia. The nest

is usually placed in a thick bush or clump of vines, from six to eighteen inches above ground, composed of weed stems, fine grasses and bark fiber, lined with fine grasses. Four eggs is a full setting, a dull white, spotted and specked with reddish-brown or chestnut, and fainter under-markings of lilac. Their food is similar to the preceding species, the Blue-winged Warbler.

GENUS COMPSOTHLYPIS.

[648]. *Compsothlypis americana americana* (Linnæus).
Parula Warbler.

RANGE.—Southeastern United States. Breeds in Austral zones from the District of Columbia and southeastern Virginia, south to Alabama and Florida; winters probably in Florida and northern West Indies.

A most common breeding bird in its favorite haunts, the cypress or juniper swamps of the southeastern section; Cape Henry southward. These trees seem to furnish particularly fine feeding grounds, and whenever you find one festooned with the long, hanging Spanish moss, here also are you likely to find one or more nests. In this section I should call them a colony bird, for in days past I have seen on the trees in and surrounding one small lake, as many as two hundred pair breeding in company. The Dismal Swamp and its surrounding low territory has been an ideal spot for a feeding and breeding home in years past, but of late, the cutting of the juniper for commercial purposes, and the disappearance of the moss to a great extent, has driven the majority of the birds elsewhere. Weather conditions seem to play an important

part with their time of breeding: some years fresh sets were only found after June 1st, other years nearly full-grown young were found by the latter part of May. Three to four eggs is a full setting, the nest being made in the bunches of hanging Spanish moss by pulling or gathering it together at its thickest point, and lining it with a yellow plant down. The eggs are a dull glossy-cream, finely specked and blotched with lilac and brown, forming a wreath on the larger end. Size, .66x.45. Their food consists of small moths, worms, caterpillars, beetles, and various insects gathered from the juniper foliage, and trees bordering the water. Their song is a most musical one, though soft. They arrive the 25th of March or thereabout, unless the spring be unduly late, and remain until the latter part of August. It is not improbable that they sometimes raise two broods with us, though the weather conditions affecting the food supply probably is the governing factor in the case.

[648-A]. *Compsothlypis americana usneae* (Brewster).
Northern Parula Warbler.

RANGE.—Eastern United States. Breeds mainly in Transition and Austral zones from eastern Nebraska, northern Minnesota, central Ontario, Anticosti Island, and Cape Breton Island south to central southern Texas, southern Louisiana, Alabama, northeastern Virginia, and Maryland; winters probably in the Bahamas and West Indies to Barbados, and from Vera Cruz and Oaxaca to Nicaragua; casual in Wyoming and Colorado; accidental in Greenland.

This is a subspecies of the former bird, a more northern form, overlapping in our territory on the Cape Charles Peninsula in Accomac County. The description of the former species will answer equally as well for this form, though the nest construction and material used varies somewhat.

SUBGENUS DENDROICA.

[652]. *Dendroica aestiva aestiva* (Gmelin). *Yellow Warbler.*

RANGE.—North and South America. Breeds from Hudsonian through Upper Austral zone in North America east of Alaska and the Pacific slope from tree limit south to Nevada, northern New Mexico, southern Missouri, and northern South Carolina; winters from Yucatan to Guiana, Brazil, and Peru.

A most common bird, but not as much so as the two following species: Yellow-throated and Pine warblers. During the spring migration northward it arrives about April 10th to 16th. During this flight it can be seen even on the shade trees of our city streets and door yard trees and shrubbery, thus making it fairly well known to the average person. It is a more common breeder further inland and nearer our northern limit than around Hampton Roads vicinity and the coastal regions, though distributed sparingly, but about evenly, over Tidewater area. The nest is a most compact and well-woven affair of fine grasses and plant down, lined with plant down or hair. Little preference seems to be given as to its location, from a low bush and an upright crotch, to a

horizontal limb of a tree being used, from four to ten feet up. Eggs number four, a dull glossy-white, profusely specked with brown or lilac over the entire surface. Fresh eggs May 15th to June 15th. Size, .65x.50. Only one brood a season is raised with us, though further north they undoubtedly raise two broods. The southward migration is at its height the middle of August. Their food consists of worms, caterpillars, grubs, beetles, and moths, gathered from the foliage, thus making them a very beneficial bird.

[654-A]. *Dendroica caerulescens cairnsi* (Coues).
Cairns's Warbler.

RANGE.—Breeds in Canadian and Transition zones in the southern Alleghenies from Maryland to Georgia; winters in the West Indies.

In North Carolina, where similar conditions exist as in many of our higher altitudes, this warbler has been found breeding extensively. The handsomest series of eggs I have ever seen, and probably in existence, is in the collection of Mr. J. Parker Norris, of Philadelphia, who prizes them most highly. Professor Smyth does not report them at Blacksburg, nor did my father find any evidence of them at Goshen, Hot Springs, or Harrisonburg. This form is a subspecies of the Black-throated Blue Warbler (*Dendroica caerulescens*), that being a more northern form, and from which they differ only slightly. The nest is placed in close proximity to the ground, of fine moss and leaf skeletons, rootlets, strips of bark, and lined with fine black grasses or hair. The eggs number three

to four, a creamy white, spotted with light brown (occasionally black specks), and fainter markings of lavender. Size of eggs, .65x.48. Their food probably differs little from the insect food taken by the other warblers, such as the Chestnut-sided and Blue-winged. I found them plentiful at Mountain Lake, Giles County, where they were nesting in low bushes near the tops of the ridges, altitude about 4,000 feet. Fresh eggs June 5th to 15th. Only one brood a season. Many nests were found in low rhododendrons June 20, all with young.

[657]. *Dendroica magnolia* (Wilson). *Magnolia Warbler*.

RANGE.—Eastern North America. Breeds in Canadian and Upper Transition zones from southwestern Mackenzie (casually Great Bear Lake), southern Keewatin, northern Quebec, and Newfoundland south to central Alberta, southern Saskatchewan, Minnesota, northern Michigan and northern Massachusetts, and in the mountains of Virginia, West Virginia, Maryland, Pennsylvania and New York; winters from southern Mexico (Puebla and Chiapas) to Panama, and also rarely in Haiti and Porto Rico; in migration west to base of the Rocky Mountains; casual in California, British Columbia, the Bahamas and Cuba.

In the vicinity of Blacksburg these birds are reported "common on May 8th to 13th, and again in the fall September 10th to October 9th," though Professor Smyth does not list them as breeding birds with him there. These are, of course, migratory birds in that section, but I found

them breeding sparingly in our Canadian zone near Mountain Lake. They are a bird of the intermediate foliage also, placing their nests from five to thirty-five feet above ground, usually in some conifer bush or tree, composing it of twigs, fine rootlets and grasses, lined with fine black rootlets. The eggs, numbering four usually, are laid about June 1st. They are a dull white, finely spotted with a light reddish-brown, and fainter markings of lavender. Size, .64x.49. A few migrate through Tidewater Virginia about May 1st to 5th; also again the first week in September. The insects taken by our breeding birds can not be taken as any great factor in their decrease, though the migratory birds undoubtedly play a greater part in helping to keep many in check.

HYPOTHETICAL.

[658]. *Dendroica cerulea* (Wilson). *Cerulean Warbler*.

RANGE.—Eastern North America and northern South America. Breeds mainly in Austral zones from southeastern Nebraska, southeastern Minnesota, southern Michigan, southern Ontario, western New York, western Pennsylvania, and West Virginia south to northeastern Texas, Louisiana, and central Alabama, and locally in western North Carolina, western Virginia, eastern Maryland, and central Delaware; winters from Panama to Peru; in migration straggles to New Mexico, Colorado, Rhode Island, Connecticut, New Jersey, and eastern Pennsylvania; casual in Cuba and the Bahamas.

The last week in April, to May 1st, finds these warblers migrating northward through our mountain region, feeding in the higher tree tops, which altitude they prefer, even when nesting. Professor Smyth reports it as rare at Blacksburg May 1st and 2nd. Swampy spots or lowlands, with high trees, are favorite places for them to select for nesting sites, all nests in my collection having been taken from thirty-five feet and over, above ground. The nests are placed near the extremity of the limbs, a compact structure of rootlets, bark fiber and fine bark, lined with finer material. The eggs number three to four, the white ground having a greenish tint, specked and spotted with dark brown, and fainter markings of lilac. Size, .65x.50. Their food is similar to that of the Redstart, Yellow-throated, and other warblers of the higher foliage. I did not find them breeding at Mountain Lake, but I have no doubt but that they breed sparingly all along the Allegheny Ridge.

[659]. *Dendroica pensylvanica* (Linnæus). *Chestnut-sided Warbler*.

RANGE.—Eastern North America. Breeds mainly in Transition zone from central Saskatchewan, northwestern Manitoba, central Ontario, and Newfoundland south to eastern Nebraska, Illinois, Indiana, northern Ohio, northern New Jersey, and Rhode Island, and south in the Alleghenies to Tennessee and South Carolina, and casually in southern Missouri and the Wabash Valley; winters from Guatemala to Panama; in migration casual in Florida, the Bahamas, and southern Mexico.

This is a fairly common warbler in our inland section, especially during the migrations. Professor Smyth reports them as "breeding at Blacksburg May 23rd," while it is common all along our mountains the last of April and first week in May, migrating southward again in early September. They are a bird of the lower foliage, preferring the scrubby second growth, lower branches and bushes, from which they gather their food of insects, caterpillars, ants and worms. The nest is placed in an upright crotch of a bush, or thick clump of weeds, from eighteen inches to three feet above ground, composed of dry weed stems, grasses, plant fiber and down, lined with fine grasses. The eggs number four, a dull white, speckled and blotched with dark brown. Size, .66x.52. Fresh eggs May 20th to June 5th. This warbler of the lower foliage is one of the many imposed upon by the Cowbird when depositing eggs. (See Cowbird 495.) I found them breeding very abundantly in Giles County, June 5th to 15th, where the nests were placed in blackberry bushes, two to three and a half feet up.

[662]. *Dendroica fusca* (Müller). *Blackburnian Warbler*.

RANGE.—Eastern North America and northern South America. Breeds in Lower Canadian and Upper Transition zones from Manitoba, southern Keewatin, central Ontario, Quebec and Cape Breton Island to central Minnesota, Wisconsin, northern Michigan, Massachusetts, and Connecticut, and in the Alleghenies from Pennsylvania to Georgia and South Carolina; winters from Colombia to central Peru and less commonly north to Yucatan; in migration to Nebraska, Texas, and Kansas, straggling to Utah, New Mexico and the Bahamas.

Like all the warblers (except a few Pine), they do not winter with us, arriving in Tidewater Virginia from the south about May 2nd to 8th, and again in the fall August 15th to October 1st. Professor Smyth reports it "at Blacksburg as rare May 2nd-14th; but common throughout September." They are a breeding bird with us in the Canadian zone only. They select generally coniferous trees, placing their nests near the extremity of the limbs, and at the highest possible elevation. The nest is composed of weed and grass stems, fine rootlets and bark fibers, lined with hair. The eggs number four, the ground having a bluish tint, spotted and finely specked with reddish-brown, with under-markings of lavender. Size of eggs, .69x.50. The birds are the handsomest of all our mountain warblers, distinctive on account of the brilliant spot on head and throat, of orange. Their food is similar to that of the other warblers of our higher foliage. I found them breeding abundantly at Mountain Lake, altitude 4,000 feet, where they placed their nests in the balsams bordering the lake, and other ravines having these stately trees in them. Birds were first noted May 18th. Only one brood a season.

[663]. *Dendroica dominica dominica* (Linnæus).
Yellow-throated Warbler.

RANGE.—Eastern North America. Breeds mainly in Austroriparian zone from southern Maryland and central Delaware to middle Florida; winters in southern Florida, Bahamas, and Greater Antilles, and also casually north to South Carolina and in the Lesser Antilles; in migration casually to New York, Massachusetts, and Connecticut.

This bird has long been a puzzle to me, as I generally mistook it at a distance in the tree tops for the Pine Warbler. It was not until the season of 1910 and 1911 that this breeding bird was firmly established on my list. A bird of the pine tree tops, with habits not unlike that of the Pine Warbler, it was not strange that I should fail to locate them, although their song could easily be distinguished after getting them separated once. The nests are placed on the extremity of a horizontal limb of a pine, from 20 to 50 feet up, of strips of bark, grasses, weed stems, and lined with hair and sometimes feathers. Eggs three to four, a dull greenish-white, spotted, specked or blotched with reddish-brown and gray, mostly on the larger end. Size, .70x.51. Fresh eggs April 7th to 30th, sometimes a second brood. They arrive as early as March 20th and depart the latter part of July. On April 2nd, 1911, I had a handsome male come into my house, attracted to the front door by the hall light, which, when opened, admitted the bird to the room. It is practically impossible to find the nest unless one watches the bird building, or with young, so well hidden is it by the bunches of green needles and cones. They are shy birds and will be seldom, if ever, seen, except by those actively engaged in ornithological work. Their food consists of insects, larvæ, beetles, and caterpillars, gathered principally from the pine trees.

[667]. *Dendroica virens* (Gmelin). *Black-throated Green Warbler*.

RANGE.—North America. Breeds in Lower Canadian and Transition zones from west central and northeastern Alberta, southern Manitoba, central Ontario, northeastern Quebec, and Newfoundland south to southern Minnesota, southern Wisconsin, northern Ohio, northern New Jersey, Connecticut, and Long Island, New York, and in the Alleghenies south to South Carolina and Georgia; in migration west to eastern Texas; winters in Mexico (Nuevo Leon to Chiapas and Yucatan), Guatemala, Costa Rica, and Panama; occasional in West Indies; accidental in Arizona, Greenland and Europe.

April 25th finds these birds passing through Tidewater Virginia, and again, moving southward the middle of September and until October 15th. Professor Smyth also reports them at Blacksburg about the same time in the spring, and July immature birds as "possible residents." Like the Blackburnian and Cerulean Warblers, they are birds of the coniferous forests, and as a rule build in such trees. The nest is placed from eight to forty feet up, a neat structure of pine needles, bark fiber and rootlets, and lined with hair and sometimes feathers. The eggs number four to five, usually four; a creamy ground, spotted and specked with dark brown, and minute black specks, with fainter undermarkings of lilac, forming a wreath around the larger end. Size, .64x.50. Fresh eggs May 30th till June 15th. Their food consists of larvæ, spiders, flies, beetles and other insects, taken from the foliage of the trees.



PHOTO BY THE AUTHOR.

HOME OF THE PINE WARBLER.

[671]. *Dendroica vigorsi* (Audubon). *Pine Warbler*.

[Pine Creeper].

RANGE.—Eastern North America. Breeds in Transition and Austral zones from northern Manitoba, northern Michigan, southern Ontario, southern Quebec, and New Brunswick south to east central Texas, the Gulf States, and Florida; winters from southern Illinois and coast of Virginia to Florida, eastern Texas, and Tamaulipas, and casually north to Massachusetts; occasional in Bermuda; accidental in British Columbia.

Many birds winter with us; these I judge to be the first to lay. This is our first migratory warbler to arrive from the south, and the first to nest. March 13th finds them with us and in song, while those that intend breeding commence nest building almost at once. Non-resident birds, though, are in full migration up to, and during, the latter part of April. As fully feathered young in nests have been found on the 7th of April, some birds must be laying by March 15th or 18th. Weather conditions seem to have little effect on their breeding time, although many nests are blown down by the high winds during the first part of April. Tall pine trees are invariably selected, the nest either placed on a horizontal limb among the cones, or in an upright crotch near the top amongst the cones. So well concealed is the nest that even after seeing the bird fly to it one can not see the nest proper. Of course there are exceptions to all cases, and I have found them saddled on a lower limb of a pine, ten feet up, without protection of any kind. The song is not unlike that of the Chipping Sparrow, though much softer and sweeter, and this cause alone kept them from closer



PHOTO BY F. N. IRVING.

HOME OF THE PRAIRIE WARBLER.

observations during a number of years with me. Color protection is well demonstrated by the material used in the construction of their nests. Small pine needles, fine bits and strips of bark, and fine rootlets and some plant fibers form the general structural part, with a lining of very fine grasses; occasionally some feathers. Four eggs is a complete set. Size, .68x.52. Eggs dull white, spotted and blotched with a dull lilac, brown, or reddish, mostly on the larger end and forming a wreath. Fresh eggs from March 15th to April 10th. Occasionally a second setting, May 20th. As the severe storms and cold spells of April blow out and destroy many nests and young, the birds naturally lay again, thus extending the breeding period over considerable time. One, therefore, finds young birds of all ages, nests with fresh eggs, and partly finished nests, from the last of March well into June. They feed at long distances from the nest, and it is only by uninterrupted following and watching of the female until she flies to the nest, that makes its location possible. Even after finding it, it may be many feet beyond reach, and it was only by constructing a device on the end of an eight-foot pole that I managed to collect a good series. They are abundantly distributed over Tidewater, even to the islands off our coast, where pine timber still stands. Their food consists of larvæ, moths, caterpillars, and various insects of the pine foliage.

[673]. *Dendroica discolor* (Vieillot). *Prairie Warbler*.

RANGE.—Eastern United States and West Indies. Breeds chiefly in Carolinian and Austroriparian zones from southeastern Nebraska, eastern Kansas, southern Ohio, southwestern Pennsylvania, southern New Jersey,

and (along the coast) from Massachusetts south to southwestern Missouri, northern Mississippi, northwestern Georgia, Florida, and the Bahamas, and north locally to central Michigan, southern Ontario, and New Hampshire; breeds rarely and locally in the Gulf States; winters from central Florida through the Bahamas and the West Indies.

This warbler arrives from the south the second week in April, and by the first week in May they are common. Those remaining to breed usually start their nests by the end of the first week in May. It is one of our most common warblers and a good songster until the young are hatched, when both birds are kept busy procuring food, especially should there be in the nest an extra husky young of the Cowbird. These warblers' nests seem especially suited for the depository for a Cowbird's egg, few early sets being without at least one in this section. I have found it a rule with these warblers, that when the Cowbird's egg is deposited before a second warbler egg is laid, or two Cowbird eggs in an incomplete set of two or less warblers, the nest is invariably deserted. The earliness or lateness of the season has much to do with the location of their nests. Late springs, when the foliage is retarded and little shelter or protection is given the nest, it is invariably placed in a clump of holly scrub, or wax myrtle, whose foliage remains green throughout the entire winter. Sometimes I have found them in a small sapling cedar, placed near the trunk and ten feet from the ground, other times equally as high or higher, on a horizontal limb of a tree on the edge of a clearing. The second-growth scrub of clearing, or low bushes on the edge of woods is, however, their favorite nesting haunt, few of such places being without one or more pair of these warblers. The nests are handsome affairs in most cases,



PHOTO BY C. F. STONE.

NEST AND EGGS OF THE OVENBIRD.

and well made, placed from four to twelve feet up, composed of plant down and fiber, fine grasses, dry leaves, and leaf stems, and spider-webs, lined in most cases with a light yellow fine grass. Eggs number four, ground white or creamish-white when fresh, spotted and blotched with reddish-brown or lilac, the majority of which is toward the larger end, often in the shape of a wreath. The female is not a close sitter, seldom allowing a nearer approach than four or five feet. Fresh eggs May 13th to 29th. Size, .64x.48. Occasionally a second setting and young are raised. They are abundant breeders over most of our area, the wooded islands off our coast having a goodly number of breeding pairs. The nests from Hog Island are particularly handsome, the birds using sheep wool in the construction. They migrate southward about August 1st to 4th, and as their food consists of caterpillars, larvæ, moths, worms, and insects, they must be classed as highly beneficial birds. The nests on Hog Island are now placed near the tops of myrtle bushes, in thick clumps, owing, no doubt, to the large number of hogs there, which eat all the homes of the lower-building species. It seems strange to flush a female from her nest when she drops to the ground (sometimes fifteen feet), and uses all the artifices of a ground-breeding species to entice one away.

GENUS SEIURUS.

[674]. *Seiurus aurocapillus* (Linnæus). *Oven-bird*.

RANGE.—North America. Breeds in Canadian, Transition, and Upper Austral zones from southwestern Mackenzie (casually the lower Yukon Valley), northern Ontario, southern Ungava, and Newfoundland south to

central Alberta, Colorado, Kansas, southern Missouri, Ohio Valley, Virginia, in mountains to Georgia and South Carolina, and east to the Atlantic coast from Nova Scotia to North Carolina; winters from central Florida (casually South Carolina) and the islands on the Louisiana coast through the Bahamas and West Indies to St. Thomas, and from Nuevo Leon to Colombia; casual at Mazatlan, Sinaloa.

This bird of the woods entirely, is common over our whole State, and ranks as one of our best songsters. It is rather a shy bird except during nesting time, when they become quite fearless should you happen to be close to their nest. The broken-wing habit is practiced by these birds when trying to entice you from their abodes, which are placed on the ground amongst the dry leaves, arched over so as to almost completely hide the entrance from the side, and from the front except when on a level with it. On the side of a hill or slight raise of ground is their preference for a nesting site, the nest being composed of dry leaves and pine needles, lined with fine grasses. The eggs number from four to five, a glossy-white, specked and blotched with reddish-brown and lilac, most of which is on the larger end or in the form of a wreath. Fresh eggs May 5th to 25th. Size, .80x.60. We find them plentiful over our whole area, increasing as we go further inland. They arrive with us from the south about April 10th, and their loud song, as it resounds through the woods, makes their presence known as soon as they arrive. They prefer to be near a small woodland stream or overflow from a spring, in which they delight to bathe. They leave us for the south about August 8th, and during their sojourn with us, generally raise two broods. Their food



PHOTO BY C. F. STONE.

NEST AND EGGS OF THE WATER-THRUSH.

consists of beetles, moths, worms, caterpillars, and other insects gathered from the ground and low foliage, thus comparing favorably with the good done higher up by the Pine and Yellow-throated Warblers.

[676]. *Seiurus motacilla* (Vieillot). *Louisiana Water-thrush*.

RANGE.—Eastern United States to South America. Breeds mainly in Carolinian zone from southeastern Nebraska, southeastern Minnesota, and the southern parts of Michigan, Ontario, New York, and New England south to northeastern Texas, northern Georgia, and central South Carolina; winters from northern Mexico to Colombia, the Greater Antilles, Antigua, and the Bahamas; accidental in California.

We have long suspected that this bird was a regular breeder in this section, though not a common one. It was not until the year of 1910 that we had positive proof of it; by finding a nest at the foot of a tree on the bank of a lake, containing four eggs, well advanced in incubation. The nest was well concealed, like that of the former species, the bird when flushing disclosing it. The nest was composed of pine needles, dry leaves, and lined with fine grass and rootlets. Eggs white, slightly glossy, well spotted and blotched with chestnut. Size, .76x.61. Migrants pass northward in large numbers about April 6th, those remaining to breed having eggs by May 1st. They are easily distinguished from the former species by the manner in which they constantly move their tail up and down, similar to the Spotted Sandpiper. They love the damp, moist woodland, and are seldom

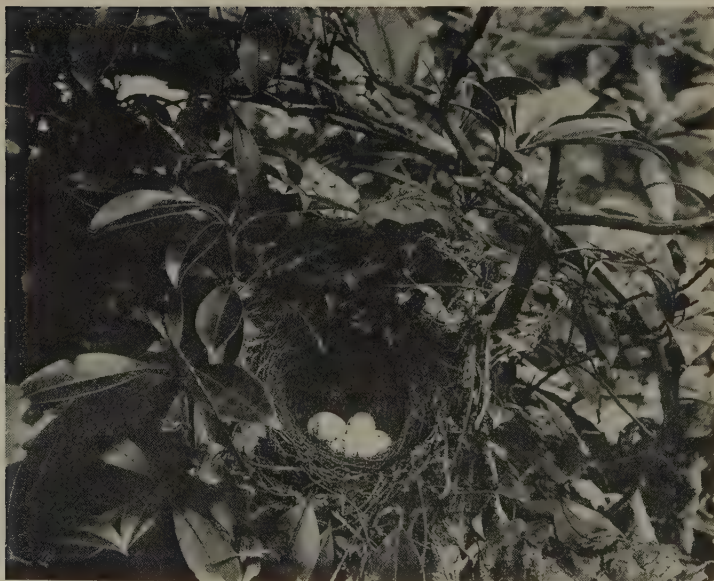


PHOTO BY T. H. JACKSON.

NEST OF THE KENTUCKY WARBLER.

found far from water, around the edges of which they procure most of their food, consisting of grubs, larvæ, beetles, and insects of numerous families. They leave for the south the last week in July, and I think, hardly rear more than one brood with us. As we go northward they become more numerous, also as we go further inland from the coast. They undoubtedly do much good by destroying many noxious insects.

GENUS OPORORNIS.

[677]. *Oporornis formosus* (Wilson). *Kentucky Warbler*.

RANGE.—Eastern United States to northern South America. Breeds in Carolinian and Austroriparian zones from southeastern Nebraska, southern Wisconsin, southeastern and southwestern Pennsylvania, and the Hudson Valley south to eastern Texas, Louisiana, Alabama, and northern Georgia; winters from Tabasco, Campeche, and Chiapas through Central America to Colombia; accidental in Vermont and Cuba.

I would not call this a common bird of residence, nor does it remain throughout the winter. Its favorite haunts and nesting sites seem to be at the head of, or along the side of, some wooded ravine with running water or wet ground in it. The borders of ponds and lakes also appeal to them. The nest is rather a bulky affair for a warbler, composed of dry leaves and pine needles, lined with fine rootlets, straws, and sometimes a few hairs. Especially well concealed is the nest, on, or very near, the ground amongst bushes, weeds, or ferns. Four to five eggs is a



PHOTO BY C. F. STONE.

HOME OF THE MARYLAND YELLOW-THROAT.

complete set. Fresh eggs may be found from May 10th to 20th. The eggs are white, the entire surface sparingly specked with reddish-brown and purple. Sets show a decided difference in markings and coloring, one set in particular in my collection having a handsome wreath around the larger end. Size of eggs, .70x.55. They arrive the last days of April, and soon commence inhabiting the fern-covered banks so suited to their retiring habits. They leave us about August 2nd on their migration southward. Their food consists of various insects, worms, grubs, spiders, moths, etc., found on the ground and low foliage bordering the wet ground near which they invariably build.

GENUS GEOTHLYPIS.

[681]. *Geothlypis trichas trichas* (Linnæus). Maryland Yellow-throat.

RANGE.—Eastern North America. Breeds in Canadian, Transition, and Upper Austral zones from North Dakota, northern Minnesota, northern Ontario, and southern Labrador south to central Texas, northern parts of the Gulf States, and Virginia (south to Warwick and Princess Anne counties); winters from North Carolina and Louisiana to Florida, the Bahamas, Cuba, Jamaica, Guatemala, and Costa Rica.

As winning the race doesn't always lie with the swiftest, so is not the nest of the common bird always the easiest to find. Surely there are few birds more common in suitable locations than the Maryland Yellow-throat is with us, yet sometimes two or three seasons roll by without finding a nest of this species. During all my years

of collecting, the nests found with eggs can be counted on one hand, generally with good-sized or full-grown young. By nature water-loving birds, there is seldom a wet or swampy place without a pair of them. Especially common did I find them along the fresh and brackish waters of the rivers emptying into the Chesapeake Bay, also on the islands off our coast. There is no mistaking the bird after hearing his "Witchery, witchery, witchery," even though we don't see him, for he keeps close to the ground and long grass. The nests are composed of grass and flag blades, lined with fine grasses or hair, located at the foot of a bush or in the grass and weeds, and on the ground, not far from water. Eggs generally number four, white, specked with reddish-brown. Size, .70x.52. May 14th to 18th we find fresh eggs. The nests are more easily found on Hog Island than anywhere else in our section, the birds being very abundant there. They reach us April 6th to 12th and depart about August 18th, the more northern birds passing through shortly, and on until September 25th, which is my latest record. They probably rear two broods with us, though I can not state so positively. Their food consists of spiders, larvæ, grubs, beetles, and other insects. We find them abundant over most of the State.

[681-B]. *Geothlypis trichas ignota* (Chapman).
Florida Yellow-throat.

RANGE.—Southeastern United States. Breeds in Austroriparian zone from southeastern Virginia (Princess Anne County and Dismal Swamp), south to Florida and along the Gulf coast at least to Louisiana; winters from the coast of South Carolina to southeastern Texas and Cuba.

This is a subspecies of the former bird, overlapping in its breeding range with that species in our area from Cape Henry southward. It is most common in the Dismal Swamp region, and around Back Bay and Currituck Sound; a natural habitat is the high marsh grass, flags, and cane brakes. As it will take a specialist in speciation to identify these birds and eggs from the former species, the notes given with that form will apply equally as well to this bird.

GENUS ICTERIA.

[683]. *Icteria virens virens* (Linnæus). *Yellow-breasted Chat*.

RANGE.—Eastern North America. Breeds mainly in Upper and Lower Austral zones from southern Minnesota, Wisconsin, Michigan, Ontario, central New York, and southern New England south to southeastern Texas, southern parts of Gulf States, and northern Florida; winters from Puebla, Vera Cruz, and Yucatan to Costa Rica; casual in Maine.

He rises from a clump of bushes, flapping his wings like a hawk over its prey, his tail moving in jerks as he ascends, all the while whistling or mocking. Thus we become acquainted the easiest way with the Chat; truly he is a mocking bird also, but not equal to the original (*Mimus polyglottos polyglottos*). A common bird here with us, they arrive from the south about April 18th, as they do not remain throughout the winter. Every suitable clump of bushes, or field with second growth in it, has as its tenants a pair or two of these birds. Twice only have I heard these birds sing at night, once during



PHOTO BY THE AUTHOR.

NEST OF THE HOODED WARBLER.

1910, and once in 1909. The nights were those still, warm, beautiful moonlight nights, seldom found except in the far south or tropics. I sat at my desk writing, and through the open windows came that clear, beautiful whistle, ending by their peculiar note or squawk. This was during the height of the breeding season, the pair of birds having a nest with eggs in a mass of vines and honeysuckle in one of my poultry yards, some two hundred feet from the house. The nests are rather loosely made, bulky affairs of dry leaves, weed stems, grass and strips of bark, lined with fine grasses. Eggs number from three to four, white, with specks and blotches of brown, lilac and lavender. A series shows a great variation in color, size and markings. Size, .88x.68. Fresh eggs from May 15th to June 1st, sometimes a second setting. Their food consists chiefly of caterpillars, white larvæ, and soft-bodied insects, flies; also numerous beetles and their eggs are eaten freely. They depart about August 28th, too soon, I think, for we miss them from a beneficial standpoint, as well as their pleasant song. We find them numerous all over our area.

GENUS WILSONIA.

[684]. *Wilsonia citrina* (Boddaert). Hooded Warbler.

RANGE.—Eastern United States. Breeds in Carolinian and Austroriparian zones from southeastern Nebraska, southern Iowa, southwestern Michigan, central New York, and the lower Connecticut Valley south to Louisiana, Alabama, and Georgia; winters from Vera Cruz and Yucatan to Panama; occasional in the Bahamas, Cuba, and Jamaica; casual north to Wisconsin, Michigan, Ontario, and Massachusetts.

The yellow face and forehead, and the contrasting black throat, make him truly a beautiful bird; no casual observer could help but notice these brilliant and pronounced markings. It does not winter with us, arriving about April 18th, soon after the Maryland Yellow-throat and Prairie Warblers. Nest building commences early in May, and fresh sets may be looked for between the 13th and up till June 3rd. Later sets have been found, though, probably a second setting, caused by the first one having been disturbed by Cowbirds or other natural causes. There seems to be a great variation of material and workmanship used by this species, some making very handsome nests adorned with feathers, others a slovenly affair without artistic beauty. Nests are generally placed in an upright fork of a second-growth bush, about three to four feet up, and not far from water. They are composed of strips of fine bark and bark fiber, spider-webs, bits of dry leaves and grasses, and lined with fine grasses. Eggs number four, white, sparingly marked with fine spots and blotches of reddish-brown, mostly on or near the larger end. Size, .70x.50. Their food is similar to that of the preceding species, and they do much good during their short stay with us. They migrate southward about August 13th. The female sits close during incubating time, the male working long distances meanwhile in search of food. The young leave the nest quite early, and are fed continuously by the parents with the smaller caterpillars, millers, moths, and minute insects. During this period of about a week, until the young are able to fly well, the old birds are most tame and solicitous, coming within a foot or two of one in their effort to attract you away from their offspring. They are distributed sparingly throughout our section, except Canadian zone.

[686]. *Wilsonia canadensis* (Linnæus). *Canada Warbler*.

RANGE.—Eastern North America. Breeds in the Canadian zone and casually in the Transition from central Alberta, southern Keewatin, northern Ontario, northern Quebec, and Newfoundland south to central Minnesota, central Michigan, southern Ontario, central New York, and Massachusetts, and along the Alleghenies to North Carolina and Tennessee; winters in Ecuador and Peru, and casually to Guatemala; in migration to eastern Mexico (Puebla and Tamaulipas); casual in Colorado.

May 1st to 5th finds these warblers passing northward, one of the latest of the warbler family to reach us from the south. They do not breed with us except in the highest mountains or Canadian zone, and then not abundantly. They migrate southward early in September. Like the Kentucky and Hooded Warblers, they are a bird of the lower foliage, gathering their food of beetles, mosquitoes, small caterpillars, flies, grubs, spiders, and other insects, seldom above fifteen feet, in the breeding season. The nests are rather bulky affairs, resembling those of the Kentucky Warbler, of dry leaves, weed stems, strips of bark, moss, and lined with fine grass, or fine rootlets. Fresh eggs May 25th to June 5th, four to five in number, a dull glossy-white, specked and blotched, mostly on the larger end, with reddish-brown, and under-markings of lavender. Size, .67x.50. Probably only one brood a season. They are experts at concealing their nests, placing them on or near the ground, in some thick clump of ferns, root sprouts, or bank, and usually near wet or swampy ground. Nesting as they do in such high

altitude, the food during that period counts for little as a factor in economic ornithology, but the migratory birds passing back and forth must prove of much benefit to us in helping to keep in check many injurious insects. My father found two beautiful sets of eggs, and I two nests with young, at Mountain Lake, Giles County, the last week in May and the latter part of June.

GENUS SETOPHAGA.

[687]. *Setophaga ruticilla* (Linnæus). *Redstart*.

RANGE.—North America and northern South America. Breeds in Canadian, Transition, and Upper Austral zones from central British Columbia, west central Mackenzie, southern Keewatin, northern Quebec, and Newfoundland to Washington, northern Utah, Colorado, central Oklahoma, Arkansas, and North Carolina; rarely breeds in the southeastern United States south of latitude 35°; casual in migration in Oregon, California, Lower California, Arizona, and northern Ungava; winters in the West Indies and from central Mexico (Puebla) to Ecuador and British Guiana.

This bird has long been a puzzle to me in our section, knowing as I do that we should find them a breeding bird, though possibly sparingly, in Tidewater. Large numbers pass through during the spring migration; April 14th finds it at its height, and many linger well into May, leading me to think each season that many will surely remain and breed. But year after year has gone by with no positive evidence of eggs or young birds, only old nests found in the winter time corresponding favorably

with those in my collection and taken elsewhere, making me promise to put forth greater efforts the nest season. Undoubtedly they breed in Northampton and Accomac counties, while inland they are quite abundant. The nest is a well-made, compact structure of fine weed stems, grasses and bits of bark fiber, lined with fine grasses or hair, sometimes feathers. The eggs have a creamy, grayish-white ground, and are specked, blotched and spotted with various shades of brown, with undermarkings of lavender. Size, .57x.49. Fresh eggs May 25th to June 3rd. Only one brood a season. They migrate southward the first week in August. During their sojourn they are most actively engaged in procuring the staple warbler food, caterpillars; though they also take many gnats, flies and winged insects while on the wing, similar to the smaller flycatchers. The nest is generally placed in the upright crotch of a low second-growth bush, from eight to fifteen feet up. Undoubtedly they help to keep in check many of the harmful insects found in the woodland that would spread to our shade and fruit trees if unchecked. I did not find them breeding above 3,500 feet altitude in the mountains.

FAMILY MIMIDÆ.—THRASHERS,

MOCKING BIRDS, ETC.

GENUS MIMUS.

[703]. *Mimus polyglottos polyglottos* (Linnæus).
Mockingbird.

RANGE.—Southeastern United States, chiefly in Austral zones, from eastern Nebraska, southern Iowa, Illinois, Indiana, Ohio, and Maryland, south to eastern Texas, southern Florida, and the Bahamas, and sparingly to New York and Massachusetts; accidental in Wisconsin, Ontario, Maine, and Nova Scotia; introduced in Bermuda.

Probably the Mockingbird is the best-known bird by all classes of people of any in the southland, and this State will prove no exception to the rule. Undoubtedly, he is our finest songster, and as a mocker of other birds he has no equal. In this section he remains throughout the coldest winter, and no matter how severe the weather, be the sun out ever so little, his cheery notes may be heard. When singing at his best, during breeding season, his finest notes are uttered from a lofty perch, and around the farm, the house chimney, or weather-vane on the barn, seems his favorite place. A cedar tree is generally selected for a nest location if one be handy, though clumps of honeysuckle, second-growth holly clumps, and other low bushes are utilized. The nests are composed of fine sticks and twigs, dry leaves and rootlets, lined with fine grasses or rootlets, rather bulky and loosely made, and

placed from two to ten feet from the ground. The eggs are dull bluish-green, spotted and blotched with reddish-brown, the blotches heavier on the larger end. Eggs number from three to four. Size, 1.00x.72. Fresh eggs between April 25th and May 10th. A number of times, as I have been sitting at my desk in the study writing, during the breeding season and a brilliant full moon, have I heard one of these songsters (presumably the male), break forth into full song, oftentimes lasting four or five seconds and repeated once or twice during the evening. He was perched on or near the top of a lofty cedar tree in which was located the nest, while the female was sitting below on a set of eggs. Besides from being an attractive bird and a fine songster, the Mockingbird destroys many noxious insects, caterpillars and larvæ, while some small fruit, such as grapes and berries, are taken. This damage, however, is doubly offset by the great amount of harmful matter destroyed by them. They also eat lots of the wild grapes, both fox and muscadine, as well as poke berries and mulberries. In winter they feed largely on the black-gum, holly, cedar, and myrtle berries. They are a common bird over Tidewater, and westward up to 2,200 feet altitude; never yet have I seen a good farm with cedars, without the Mockingbird.

GENUS DUMETELLA.

[704]. *Dumetella carolinensis* (Linnæus). Catbird.

RANGE.—Eastern North America. Breeds mainly in Transition and Austral zones from central British Columbia, central Alberta, central Saskatchewan, southern

Manitoba, central Ontario, southern Quebec, and Nova Scotia south to northeastern Oregon, northern Utah, northeastern New Mexico, eastern Texas and northern Florida; resident in Bermuda; winters from Southern States to the Bahamas and Cuba and through Mexico to Panamá; casual in winter north to the Middle States; accidental on the Farallon Islands and in Europe.

This bird is very common over our whole area, but does not winter with us, arriving about April 4th from the south. It is generally some weeks before they start nest building after arrival, during which time every bush and clump of vines is inspected by them for a suitable nesting site, all the while they are mocking or mimicking notes of some other common species. A second-growth bush, clump of briars, or honeysuckle, is a favorite location, from four to eight feet up. Nest composed of twigs, bark fiber, and lined with fine rootlets. Sometimes nests have bits of paper, string and rags as additional nesting material. Eggs bluish-green, unmarked, three to five in number. Size, .96x.70. Fresh eggs May 15th to June 1st. Occasionally a second setting. During the berry season they do quite a little damage to strawberries, currants, raspberries (both black and red), blackberries and dewberries, but the good they do around the place far offsets the harm done. They seem particularly fond of the wild fox and muscadine grapes in the early fall, which are nearly ripe just before migration, large numbers passing southward around September 27th. Their earliest date of arrival is March 3rd, but this is an unusual case. Aside from the fruit eaten, they destroy a large amount of insects and their larvæ. Like the Mockingbird, they are very fond of the poke berry, while they also eat the dogwood and black-gum berries. They

are a sociable bird, and when nesting near one's house soon become accustomed to the presence of the inhabitants at close range. I have have had a pair raise; within twenty feet of my door, a brood of four, and their second setting was raised in a new nest within three feet of the first. In Tidewater a few remain throughout the winter, if mild.

GENUS TOXOSTOMA.

[705]. *Toxostoma rufum* (Linnæus). *Brown Thrasher*.

[French Mocker. Wood Robin].

RANGE.—Eastern United States. Breeds mainly in Transition and Austral zones from southern Alberta, southern Manitoba, northern Michigan, southern Ontario, southern Quebec, and northern Maine south to eastern Louisiana, Mississippi, Alabama, and northern Florida, and from base of the Rocky Mountains in Montana, Wyoming, and Colorado eastward; winters from south-eastern Missouri and Virginia (James River Peninsula), to south central Texas, southern Florida, and casually further north; accidental in Arizona and Europe.

This species was not given as a regular winter resident in Virginia by the 1910 A. O. U. check list, although it has always been a regular winter resident during my sojourn in the State, covering a period of over twenty years. It is a common breeder, and remains through the winter, breeding with the earliest of birds. Known to the residents and negroes as "Wood Robin"; many are shot as game on account of their size. They are especially fond of the wild fox grape and muscadine during the

fall. The female is a close sitter, especially if the eggs are incubated a few days, one often being able to almost touch her before she departs. The nest is a large, bulky affair, loosely made of twigs, dry leaves and rootlets, lined with fine grasses, placed in a low bush or vines, from two to ten feet up. Three to four eggs is a complete set, though one set of five eggs during the twenty years collecting is a record set in this locality. April 20th to May 15th finds fresh eggs. Occasionally a second brood. Eggs grayish-white, spotted over entirely with reddish-brown. Size, 1.05x.80. Few series of eggs show a more varied marking or coloring than those of this species. They take a few cultivated berries from the patches, but one generally finds them scratching in the dry leaves, after the manner of chickens, for insects and their larvæ. During the time young are in the nest, they are constantly on the move procuring all kinds of food, caterpillars and worms at this time being the greater part of it. While not as sociable as the two former species, the Thrasher can always be found near the farm buildings. When dusting themselves in the dry summer dusty road, they fluff up their feathers to such an extent, and raise such a small cloud of dust, that they look twice their natural size; often have I mistaken them thus for the Bobwhite. They are a common bird over our entire section.

FAMILY TROGLODYTIDÆ.—WRENS.

GENUS THRYOTHORUS.

[718]. *Thryothorus ludovicianus ludovicianus*
(Latham). *Carolina Wren*.

RANGE.—Eastern United States. Breeds in Carolinian and Austroriparian zones from southeastern Nebraska, southern Iowa, Ohio, southern Pennsylvania, and lower Hudson and Connecticut Valleys south to central Texas (western Texas in winter), Gulf States, and northern Florida; casual north to Wisconsin, Michigan, Ontario, Massachusetts, New Hampshire, and Maine.

Winter or summer, hot or cold, it's "Cheerily, cheerily" with the Carolina Wren. Nothing seems to affect him, not even when the saucy little House Wren rolls the eggs out of his nest; off he goes and builds another. Around the farm house and outbuildings he seems most at home; the wood pile with its ever-present store of insects and worms is his paradise. They nest anywhere, in a fruit basket, can of nails, over the window sash, on a narrow ledge, or on the sill under the barn, in racked-up wood, and a dozen other places one would never expect them to. Away from the outbuildings it's another matter to find a nest, under a brush pile, in a fallen hollow limb of a tree or small log, upturned roots, or a decayed cavity in a stump—all are their favorite places. In the woods if you find a nest just completed and don't touch it or go within a foot or two of it, nine hundred and ninety-nine times out of a thousand they desert it. Around the farm buildings it's different; he may be over the door that is

in use a dozen times a day—he doesn't mind you. The nest is slightly arched over, composed of leaves, bark fiber, fine grasses, pine needles; lined with finer rootlets, bark fiber or very fine grasses or hair. Four to five eggs is a complete set; from April 15th to May 1st is an average date; June 15th for a second set. An exception was a batch of young just able to fly the first week in January; raised inside an old sawmill building, the entrance through a broken pane of glass. They remain the year round with us. Eggs white, spotted and blotched with reddish-brown and purplish, becoming more numerous toward the larger end. Size, .74x.58. I know of no more cheerful bird to have around one's dwelling, for he is always singing, both winter and summer. There are few more inquisitive birds than this wren; mouse, rat and steel traps luring them to destruction. I have also found a dead one in a box rabbit trap or hare gum, while I have had them enter the open window of my house in the summer time. As they are thus around the premises the entire year, the amount of spiders, wasps and flies gathered in the outbuildings, as well as numerous insects and their eggs and larvæ, amounts to considerable. The borers in dead trees or racked-up cord wood, are choice morsels for these birds. One can not fail but to identify this noisy, energetic wren, seldom seen with his tail at any position but at right angles to his back, except when pouring forth his song, when it is pointing downward at a thirty degree angle. Some winters many are frozen out, but they seem to recover in numbers rapidly. They are evenly and abundantly distributed over our whole area.

GENUS THRYOMANES.

[719]. *Thryomanes bewicki bewicki* (Audubon).*Bewick's Wren.*

RANGE.—Eastern United States. Breeds chiefly in Carolinian zone from southeastern Nebraska, northern Illinois, southern Michigan, and south central Pennsylvania south to central Arkansas, northern Mississippi, central Alabama (accidental in southeastern Virginia, Warwick County), and along the Alleghenian highlands to northern South Carolina; winters from near the northern limit of its range southward to the Gulf Coast and Florida; accidental in Ontario and New Hampshire.

This is not a common resident bird, although during the years of 1891-1894, a number of sets were taken, along with a parent bird, a female, so as to be sure of identification. All the nests that were found, though, were in a small area, and within a short distance of each other, a number of small apple trees near the bank of the James River being their favorite spot. It was not hard to locate these little fellows in the holes of the trees, but quite another matter to reach them. One year there were two pair, the other three seasons only one, and I am inclined to think it was the same pair returning each year. The old apple trees passed from sight, and with them those wrens, nor have I found any in this section since then. Five to six eggs is a full set. The nest is composed of fine twigs, dry grass, and lined with feathers. A close comparison with the eggs of "ædon" show a decided difference both in color and size. May 12th to 28th, fresh eggs. The ground color is white, entirely covered with reddish-brown spots, more numerous toward the

larger end, where they form a complete ring or band, though not as heavy as the House Wren. Size, .66x.52. While they breed further inland these are my only records for Tidewater. Their food undoubtedly differs little from that of the House Wren, and they probably migrate about the same time. They are an erratic bird throughout their range, often a number of years passing by without their returning to their regular breeding ground; possibly some year we may find them again with us in Tidewater. In our western part I found them breeding up to 4,500 feet altitude.

GENUS TROGLODYTES.

[721]. *Troglodytes aëdon aëdon* (Vieillot). *House Wren*.

[Jenny Wren].

RANGE.—Eastern North America. Breeds chiefly in Transition and Upper Austral zones from eastern Wisconsin, Michigan, central Ontario, southern Quebec, and New Brunswick south to Kentucky and Virginia; winters in eastern Texas and Tamaulipas, and in the South Atlantic and Gulf states.

The House Wren will have to draw straws with the Carolina Wren to find out which is the most common summer resident here; sometimes I think one, sometimes the other. The House Wren does not winter with us, though, arriving about April 8th and leaving about August 18th, according to the lateness of the last brood. As soon as he arrives he sets about finding a suitable hollow, box, tin can, or dozen other localities resorted

to by this saucy little fellow. Nest building commences shortly, and by April 20th to 25th a full set of eggs can generally be found. In the curry-comb box in the barn, an old horse blanket, scare crow, and a shoe are unusual places occupied by these birds on my farm. May 3rd finds sets, fresh and incubated, located in previous-year woodpecker holes in dead pine trees, bordering salt water. Second sets similarly located were found numerous June 27th. Three broods were raised to my knowledge on my place, the season of 1911. The nest consists of fine twigs, lined with horse hair, feathers, fur, or numerous other soft material as locality offers, placed in any of the numerous above-mentioned locations. Eggs number from five to seven. Of pugnacious disposition, he drives the Carolina Wrens and Bluebirds out of any can or box he desires to occupy, or away from his nesting site, often rolling the eggs from the Carolinas' nest out and causing them to be broken, thus breaking up their home. A pair of House Wrens repeated this act each morning after the Carolina Wren had laid, for four consecutive mornings, the House Wren being on a box in the back of the outbuilding and the Carolina Wren over the window sill inside. One season three pairs breeding within the yard completely drove away the Carolina Wrens from the outbuildings and wood pile, nor did they return until after the last House Wren had left. Eggs a creamy-white, spotted minutely with light reddish-brown, a much darker shade on the larger end, generally forming a wide ring or band. Size, .65x.52. They are abundantly distributed over our whole area. The amount of food gathered during the rearing of their two or three broods with us, is appalling, one or the other parent birds making a trip to the nest with food on the average of every three minutes during daylight. One can naturally see that at this rate

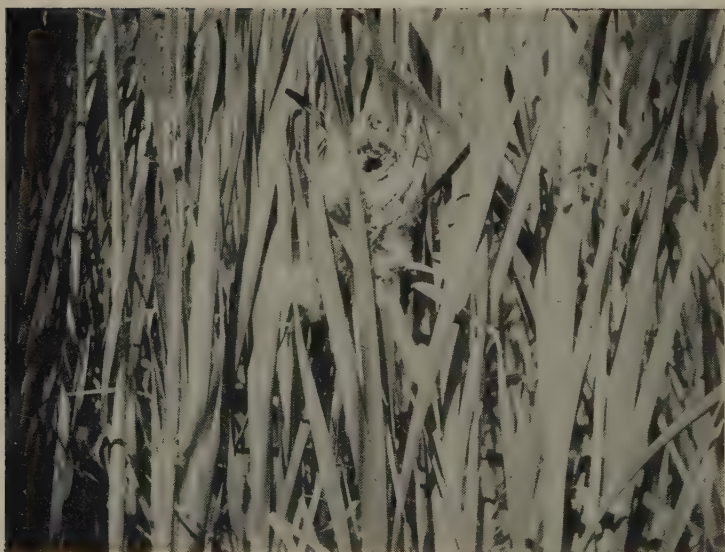


PHOTO BY THE AUTHOR.

HOME OF THE LONG-BILLED MARSH WREN.

they are one of our best friends in keeping down the smaller caterpillars, worms, small millers and insects of numerous kinds. Their song is a most pleasing one, but when uttered continuously in close proximity to a person, as they must do when building in and around our residences, it becomes very monotonous. Taking them as a whole they are a very sociable and welcome breeding bird.

GENUS NANNUS.

[722]. *Nannus hiemalis hiemalis* (Vieillot). Winter Wren.

RANGE.—Eastern North America. Breeds in Canadian zone from central Alberta, southern Manitoba, northern Ontario, northern Quebec, and Newfoundland south to central Minnesota, northern Wisconsin, central Michigan, and Massachusetts, and through the Alleghenies to North Carolina; winters from about its southern breeding limit to Texas and northern Florida.

The Canadian zone of our mountains is the summer home of this wren, but during the fall and spring, the middle of April, and again during October, a few may be found in the lower altitudes. They are the smallest and most seclusive of any of the species of wren we have with us, and it is improbable if but few of our inhabitants will ever come in direct contact with them, keeping as they do in the dense undergrowth, and close to the ground. They breed in Giles, Grayson, and Washington counties; probably others in Alleghenian Range. They have also been taken in the mountains of North Carolina by Mr. William Brewster. The nests are not unlike those

of the House Wren, a compact structure of fine twigs, roots, leaves or moss, lined with feathers and fur, placed in some crevice of a tree trunk, upturned roots, overhanging bank, or under a slightly elevated log, but always in close proximity to the ground. Frequenting as they do the uninhabited or uncultivated areas, the food gathered by these birds, which differs little from that of the Bewick's and House Wren's, can not play any great part in our economic ornithology. The eggs, which are laid the latter part of May, are glossy-white, sparingly specked with dark brown. Five to seven eggs is a full set. Size, .65x.50. Possibly two broods are reared with us a season.

GENUS TELMATODYTES.

[725]. *Telmatodytes palustris palustris* (Wilson).
Long-billed Marsh Wren.

RANGE.—Eastern United States. Breeds in Transition and Upper Austral zones from southern Ontario and southern Quebec south to the Potomac Valley and coast of Virginia; winters from southern New Jersey to South Carolina and casually to Florida; casual in New Brunswick.

No salt or brackish /marsh seems complete without him, although I find it a more common breeder on the west side of the Chesapeake Bay than the Eastern Shore. Also a common breeder along Back Bay and Currituck Sound. With an early spring, eggs have been found as early as April 25th, but from May 15th till June 30th one can always find fresh sets of eggs. Many dummy nests are made, about one in every three being occupied.

The nests are placed in the long marsh grass, cat-tails, or tules, and occasionally a low bush, between three to four feet above ground or water, as case may be. Six eggs is a large set for this section, five being the general average. Nests are composed of coarse marsh grass and blades, lined with plant down, cat-tail fur and fine grasses; an oval affair with a little round hole entrance, generally on the southern side. Color of eggs varies from a pale to a dark chocolate; spotted and blotched with a darker shade. Some sets have the entire larger end almost entirely covered with a darker color. Size, .64x.48. These birds do not winter with us, arriving about April 10th, and departing southward the first week in September. The heads of the creeks and smaller streams afford ideal nesting sites for these birds, the tall salt marsh grass bordering the edges affording protection for both nests and the birds, when feeding. During the height of the tides they feed on the insects found in the taller grass, but during low tide they feed on the muddy tide flat and bottom of the grass stems, where all sorts of marine life is secured. They are constantly singing while at work, and, as many homes are located near to these salt water or brackish streams, interested persons can become easily acquainted with this cheerful little fellow. They usually rear two broods with us, thus their breeding season extends over quite a long period.

[725-E]. *Telmatodytes palustris marianæ* (Scott).
Marian's Marsh Wren.

RANGE.—Coast of South Atlantic States. Breeds in Lower Austral zone on the coast of North Carolina (and Back Bay, Princess Anne County, Virginia); winters south to South Carolina and west coast of Florida.

This is a subspecies of the former bird, the description of which will apply equally as well to this bird, except that it is found in our area only bordering Back Bay, Princess Anne County, where it overlaps its breeding range with the former species. Their nests, habits and eggs can not be distinguished from those of the Long-billed Marsh Wren, and they arrive about May 1st. They breed somewhat later than the former species, for, during a trip covering their breeding ground, June 7th to 10th, I found them with only incomplete nests. The first of September finds them migrating southward.

FAMILY CERTHIIDÆ.—CREEPERS.

GENUS CERTHIA.

[726]. *Certhia familiaris americana* (Bonaparte).

Brown Creeper.

RANGE.—Eastern North America. Breeds mainly in Canadian and Transition zones from southern Manitoba, central Ontario, southern Quebec, and Newfoundland south to eastern Nebraska, northern Indiana, northern New York, and Massachusetts, and south along the Alleghenies to North Carolina, and casually in southeastern Missouri; winters over a large part of its breeding range and south to central Texas and northern Florida.

These little active birds do not winter with us, arriving in Tidewater Virginia about April 8th, while in the mountains, Professor Smyth reports them as arriving at Blacksburg April 10th to May 1st, and migrating southward the latter part of October. Like the nuthatches, they never seem to be still a moment, moving in jerks, up, down and around the tree trunks and limbs, first on top and then on the under side, peeking into every crack and crevice in search of the smaller insects, their eggs and larvæ, of which their food consists mostly, thus making them a very beneficial bird to have in our forests. Our pine trees they seem particularly fond of, probably on account of the rough and deeply cracked bark, which harbors so much more food than other trees. The nest is placed in a narrow crevice between the bark and the tree trunk, various heights from the ground, and is composed of fine twigs, strips of bark fiber and sometimes moss. Four to six eggs constitute a full set, the eggs being white, finely specked with reddish-brown. Size, .60x.50. They raise but a single brood each season. Fresh eggs May 5th to 10th.

FAMILY SITTIDÆ.—NUTHATCHES.

GENUS SITTA.

[727]. *Sitta carolinensis carolinensis* (Latham).
White-breasted Nuthatch.

RANGE.—North America east of the Plains. Breeds in Canadian, Transition, and Upper Austral zones from northern Minnesota, central Ontario, southern Quebec, and Newfoundland south to the northern parts of the Gulf States; casual in Keewatin.

This little fellow, like the former species, is a most active bird in his search for food, though his larger size and white underparts and slaty back make him much more conspicuous. Nor are they as fond of the pine trees as the Brown Creeper; more often have I seen them in the numerous varieties of our oaks than other trees. They become quite common in our Tidewater region during April (16th), and again in October, during migrations, though some few remain throughout the winter. My father found them common at Massanetta, Goshen, and Hot Springs, but raising only a single brood during the season. Professor Smyth also reports them as a common breeding bird at Blacksburg, some remaining throughout the winter. They build their nests in natural cavities of trees, or deserted holes of the woodpeckers (preferably that of the Downy), of fine strips of bark fiber, lined with fur or hair. The eggs number five to seven, six being the general rule, a glossy creamy-white ground, profusely specked with reddish-brown. Size, .76x.58. Fresh eggs May 1st. They do not breed in our Tidewater region,

being a bird of the Alleghenian fauna in that respect. Their long sharp bills make them well fitted for gleaning the bark cracks and crevices of insect life, while seeds are also eaten to some extent. I found them fairly common in Giles County at an elevation of 3,500 feet, and up.

[728]. *Sitta canadensis* (Linnæus). *Red-breasted Nuthatch.*

RANGE.—North America. Breeds in Canadian zone from the upper Yukon Valley, southern Mackenzie, central Keewatin, northern Quebec, and Newfoundland south to northern Minnesota, Michigan, and Massachusetts, and south in the Sierra Nevada and Rocky Mountains to California, Arizona, and New Mexico, and in the Alleghenies to North Carolina; also on Guadalupe Island, Lower California; winters from southern Canada south to Lower California, New Mexico, Arizona and the Gulf coast.

This nuthatch is similar to the former bird, though a trifle smaller, and with a red breast instead of the white. Their movements in search of food, so characteristic of the whole family, are ably carried out by this bird as well, and their food differs little from that of the Brown-headed Nuthatch. They are, however, not as numerous as the White-breasted Nuthatch, nor do they winter with us, arriving from the north about the last of September and going northward again the first part of April. They prefer the pine trees in preference to all others, from which they gather practically all their food. Professor Smyth reports young birds taken on August 12th at Blacksburg, which I would say were reared not far distant, either in our State

or West Virginia. They have also been found breeding in the mountains of North Carolina. They select some natural cavity or dead stub in which is a deserted woodpecker hole for a nesting site, lining it with fine strips of bark. Fresh eggs June 1st, four to six in number, a glossy creamy-white, sparingly specked with reddish-brown. Size, .62x.52. They rear but a single brood each season. Our Canadian zone offers ideal surroundings and food for this bird during nesting time. I found them scarce in Giles County.



PHOTO BY THE AUTHOR.

THE ROUND HOLE IN CENTRE OF STUB NEAR TOP IS
ENTRANCE TO NEST OF BROWN-HEADED NUTHATCH.
CROSS MARKS (X) BELOW REPRESENT
PREVIOUS NESTING SITES.

[729]. *Sitta pusilla* (Latham). *Brown-headed Nuthatch.*

RANGE.—Southeastern United States. Breeds in Austroriparian zone from southern Missouri, and southern Delaware south to eastern Texas and southern Florida; casual in southern Michigan, Ohio, New York, and the Bahamas.

Along the borders of our salt water one seldom misses seeing this noisy little fellow bobbing up and down a tree trunk, or flitting from tree to tree examining the pine cones in search of food. Without doubt he is the first to tell us that spring is here by informing us, with his usual knocking on a dead pine stub, that he is hunting a likely nesting place. While the Bald Eagle may breed earlier in the season, it is generally nearer the New Year holidays, than springtime. Early in March, having remained during the winter with us, he is digging away at a rotten stub, about three or four feet from the ground, the cavity being made from three to ten inches deep. Both birds I have found occupying this cavity at night, sometimes two weeks before eggs are deposited. A pair having established themselves on the water front of my farm for the last four years, broke the record for early dates the season of 1910; eggs deposited March 15th. This same pair completed their second set (having raised six the first time), April 15th: four eggs, slightly addled. These were taken, and the birds drilled another hole in the same stub six inches to the south side of the former, where five eggs were laid by April 27th. These they also reared. A few pine seed leaves on the bottom of the cavity is the only pretense of a nest. Six eggs are a full

set here. An unusual nesting site was a fallen pine tree trunk from the river bank, whose limb stubs held it off the beach about two feet. The birds had drilled a hole on the under side in the rotten casing, only the tell-tale pile of chips disclosing this unique position to me. The eggs are white, heavily spotted with reddish-brown. Size, .60x.49. Both birds work incessantly at the nesting cavity until it is finished, one relieving the other as soon as they become tired or hungry. I know of no more active birds in our section, and, as they remain paired for life, we always find one following the other around, or both working the same pine tree in close proximity, in search of food. Their flight has the same jerky motion to it as the woodpeckers', but their small size, and the shortness of their tail make them easily distinguishable when in flight. I have found them equally, though not abundantly, distributed over Tidewater, and if they were only more numerous, they would be a great factor in preserving our pine forests, for much of their food is taken from the bark of that tree, consisting of spiders, minute insects, grubs and eggs, while seed from the pine cones seems to be one of their staple articles of food at all seasons.

FAMILY PARIDÆ.—TITMICE.

GENUS BÆOLOPHUS.

[731]. *Bæolophus bicolor* (Linnæus). *Tufted Titmouse.*

RANGE.—Carolinian and Austroriparian zones of eastern United States from Nebraska, Iowa, Illinois, Indiana, Ohio, Pennsylvania, and New Jersey south to central Texas, the Gulf Coast, and Florida; casual in southern parts of Wisconsin, Michigan, New York, and Connecticut.

This is rather a common breeder over the whole area; its cheery whistle can be heard any time during the day in the early part of the breeding season. After the female commences to set, it is not so easy to induce the male to whistle or come within a few feet of one by duplicating his pleasant call. While a common bird, its nest is not easily located, and when located it may be impossible to get, or necessitate some hours work, or longer, chopping an opening to the natural cavity in a live tree, preferably an oak, poplar or black-gum. During eighteen years of collecting, in which time numerous families of young of different ages were found, not a set of fresh eggs were found until the season of 1909. Even then it was a second setting, taken May 26th, four in number. The early or late springs seem to have no effect on their breeding time, and, from finding young just hatched, I conclude their regular time is from the first to fifteenth of April. Four and five eggs seem to be a complete set in this locality. The nest is composed of leaves and bark fiber, with a lining of rabbit fur. The height of cavities varies from

fifteen to sixty feet, sometimes even higher. I have tried to induce them into homemade nesting sites of boxes and cans, placed in suitable places, as I have seen practiced in California with the Plain Titmouse, but without success. From my observations I find two broods unusual. They are resident birds throughout the year. Eggs, creamish-white, specked and spotted with reddish-brown and fainter markings of lavender. Size, .74x.54. Their food consists of numerous insects gathered from the trunks and limbs of the larger trees; the acrobatic feats performed while doing so are an amusing and interesting sight. During this activity, though, they take time to utter their cheery whistle, and will, if imitated, come down from lofty heights to within a few feet of the intruder, so inquisitive is their nature. Like the chickadees and nuthatches, the young when able to leave the nest travel in company with the parents in search of food, often two or more broods joining company. Never have I yet found nests of these birds in a deserted woodpecker hole; natural cavities of the hardwood trees were always selected. A pair nested in 1912 within sixty feet of my house, yet so distantly did they range from their nest, and so cautious when approaching it before eggs were hatched, that it was not until the birds made regular trips with food for the young, that I discovered it. The female is a very close sitter, allowing herself to be removed from the eggs or young, as she will not at that period flush.

HYPOTHETICAL.

GENUS PENTHESTES.

- [735]. *Penthestes atricapillus atricapillus* (Linnæus).
Chickadee.

RANGE.—Canadian and Transition zones of eastern North America from southeastern Keewatin, southern Ungava, and Newfoundland south to central Missouri, Illinois, northern Indiana, Ohio, Pennsylvania, northern New Jersey, and in the Alleghenies south to North Carolina; somewhat further south in winter.

There is still some doubt but that all the Chickadees breeding in our State are the following species, or Carolina Chickadee, which is a common breeder both in Tidewater Virginia and the Alleghenian zone. It is supposed to breed in our Canadian zone, but a careful search on my part, and a series of skins from that section, failed to clear up this point. They migrate sparingly through our Alleghenian zone in early September. There is, however, little difference (except size) in these birds, their nesting habits, food, etc., from that of the following species, to which I refer my readers; other than advanced ornithologists. Even at Mountain Lake vicinity, with an altitude of 4,000 feet and upwards, I found the breeding birds to be the Carolina Chickadee, their nesting habits there being similar to those of lower altitudes.

- [736]. *Penthestes carolinensis carolinensis* (Audubon).
Carolina Chickadee.

RANGE.—Southeastern United States. Breeds in Carolinian and Austroriparian zones from central

Missouri, Indiana, central Ohio, Pennsylvania (sparingly), and central New Jersey, south to southeastern Louisiana, the Gulf coast, and northern Florida.

A very common breeding bird throughout the whole area. For a nesting site a rotten sapling poplar, pine, or holly stub is generally selected, a small hole being excavated by the birds themselves. An exception to this general rule is a natural knot hole cavity in a live tree, or sometimes a fence post. When once they have selected their location they do not seem to mind being disturbed or interrupted in their duties, either during nest building, incubation, or feeding young, and it is rather hard to dislodge the female while sitting. The nest cavity is rarely above ground more than eight feet, generally from three to five. Around some pond or marsh, or along a river bank seems their favorite home site. The cavity is well lined with bark fiber, fine green moss, rabbit fur, and hair, six eggs being a large setting in this section, generally four or five. April 19th finds fresh eggs, casually as late as May 2nd. Sometimes two broods are raised in one season. Many remain during the winter season. Eggs, a creamy-white, dotted with reddish-brown. Size, .56x.46 for an average, though there is a great variation in size, and many sets have runt eggs. The nesting cavity is excavated, from five to eight inches below the entrance hole, and is a very neat piece of workmanship. They are persistent workers in the medium-sized woods and sapling growths, in search of insects, larvæ, and eggs; undoubtedly playing an important part in the reduction of many of our forest pests. They travel in small bands, and even during breeding time two or more pair are found not far distant.

FAMILY SYLVIIDÆ.—WARBLERS,
KINGLETS, GNATCATCHERS.

SUBFAMILY REGULINÆ.—KINGLETS.

GENUS REGULUS.

[748]. *Regulus satrapa satrapa* (Lichtenstein). *Golden-crowned Kinglet*.

RANGE.—Eastern North America. Breeds in Boreal zones from northern Alberta, southern Keewatin, southern Ungava, and Cape Breton Island, south in Rocky Mountains to northern Arizona and New Mexico, and to Michigan, New York, and mountains of Massachusetts, and in the higher Alleghenies south to North Carolina; winters from Iowa (casually Minnesota), Ontario, and New Brunswick to northern Florida and Tamaulipas, northeastern Mexico.

During the spring and fall migrations many of these birds are found in our mountain region. Professor Smyth reports them abundant at Blacksburg March 28th to April 5th, and again October 15th to December 29th. It is, however, only in the highest mountains that they breed with us.

Many migrate through Tidewater Virginia the middle of April. The birds themselves are about the smallest we have in our State, and with their habits keeping them in the highest tree tops, the casual observer will probably never see them. Their food consists chiefly of insects, mainly caterpillars, wasps, moths, beetles, bugs, ants, etc.,

thus making this tiny bird quite a factor in the decrease of many harmful forest pests. The nests are beautiful-made structures of moss, plant down, fine grasses and strips of bark, lined with feathers, placed suspended near the extremity of the limb of a conifer generally, from forty to seventy feet from the ground. The eggs number five to eight, the ground color a dull gray, finely specked with light brown, giving the egg rather a dirty yellowish appearance. Size, .55x.45. It is improbable they raise more than one brood a season. Fresh eggs May 25th to June 15th.

SUBFAMILY POLIOPTILINÆ.—GNAT-CATCHERS.

GENUS POLIOPTILA.

[751]. *Polioptila cærulea cærulea* (Linnaeus). *Blue-gray Gnatcatcher*.

RANGE.—Southeastern United States. Breeds in Austroriparian and Carolinian zones from eastern Nebraska and southern parts of Wisconsin, Michigan, and Ontario, and southwestern Pennsylvania, Maryland, and southern New Jersey south to southern Texas and central Florida; winters from southern Texas, Gulf States, and northern Florida to the Bahamas and Cuba, and through eastern Mexico to Yucatan and Guatemala; casual northward to southeastern Minnesota, New England, and New York.

A common breeding bird below 1,800 feet altitude throughout the whole area. Nest building commences about April 20th if the weather be fair, both birds procuring material; from seven to ten days being taken to complete a nest. Many nests are destroyed by heavy wind storms which generally occur during this period, particularly those built on the top of horizontal limbs. Cypress and post oak trees seem to be their favorites in this section, although occasionally a pine is resorted to. An unusual nesting location was in a young sapling pine about three and a half inches in diameter, twenty feet from the ground, the nest being fastened to the side of the tree, with only a short stub a half inch long on the under side. Only one brood is reared during the



PHOTO BY F. N. IRVING.

BLUE-GRAY GNATCATCHER'S NEST.

NOTE HOW THE LICHENS ON THE NEST BLEND WITH THOSE ON THE
LIMB, THE BIRDS' GREATEST PROTECTION DURING INCUBATION
OF EGGS AND REARING OF YOUNG.

season, the latest nest found with fresh eggs being May 28th; this lateness I attribute to the first nest being destroyed by a storm. Five and six eggs is a complete set for this section. The nest is composed of very fine pieces of grass or plant fiber, interwoven with plant down, spider-webs, and fine strips of inner bark and lichens, with an outside covering of lichens. Eggs, bluish-white, specked with chestnut, somewhat pearform in shape. Size, .56x.46. Fresh eggs May 5th to 15th. They arrive about March 29th to April 3rd, and leave us about August 28th. Their song is soft and sweet, uttered constantly while feeding, particularly in the cypress or juniper foliage, which they seem to be particularly fond of. Much of their food is taken on the wing, after the manner of the flycatchers; gnats, flies, small spiders, and numerous small insects and their larvæ being their chief food, thus placing them on the beneficial list of the agriculturist.

FAMILY TURDIDÆ.—THRUSHES,
SOLITAIRS, STONECHATS,
BLUEBIRDS, ETC.

SUBFAMLIY TURDINÆ.—THRUSHES.

GENUS HYLOCICHLA.

[755]. *Hylocichla mustelina* (Gmelin). Wood Thrush.

RANGE.—Eastern North America. Breeds in Transition and Austral zones from southern South Dakota, central Minnesota, central Wisconsin, southern Ontario, and southern New Hampshire south to eastern Texas, Louisiana, and northern Florida; winters from Puebla, southern Mexico, to Nicaragua and Costa Rica; casual in migration in the Bahamas, Cuba, and Jamaica; accidental in Colorado, Maine and Bermuda.

A fairly common breeding bird over the whole area, the nest as usual placed in the upright fork of, or on a bent-over, slender sapling growing along the border of swampy ground, or along a stream. A full setting of eggs, numbering from four to five, may be found from May 5th to 15th, while a second setting, which sometimes occurs, may be looked for about June 15th. The nest is composed of dry leaves, grasses and stems, mud, paper, and bits of string, and lined with fine rootlets. Eggs, greenish-blue, unmarked. Size, 1.05x.70. These birds arrive about April 15th, and soon make their presence known by that beautiful liquid song so easy to identify their presence by. As a breeding bird they are becoming more numerous; for many years they were unknown as



PHOTO BY F. N. IRVING.

NEST AND EGGS OF THE WOOD THRUSH.

a breeder on the James River Peninsula, while nowadays they are fairly common there. During the southward migration our native birds leave us about August 20th, while those coming through from further north reach us from September 15th to 20th. They are a sociable bird, often nesting in close proximity to buildings, and when doing so, soon lose their shyness of the woods and become very tame. Their food consists of spiders, small caterpillars, and worms, beetles, and numerous wild berries, such as the black cap, mulberry, dogwood and black-gum. They procure much insect life from the ground, scratching and turning over with their bills the dry and wet leaves bordering the wet places. They love to bathe in the shallow pool or running stream, and at such times, when thoroughly soaked, would not lead one to believe they could produce such a marvelous song. I think the Wood Thrush has the most beautiful song of any of our native birds. I found them very abundant in the mountains at 4,500 feet altitude.

[756]. *Hylocichla fuscescens fuscescens* (Stephens).
Veery.

[Wilson's Thrush].

RANGE.—Eastern North America and northern South America. Breeds in Lower Canadian and Alleghenian zones from northern Michigan, central Ontario, Anticosti and Newfoundland south to northern Illinois, northern Indiana, northern Ohio, and northern New Jersey, and in the Alleghenies to North Carolina and northern Georgia; migrates through Yucatan and Central America; winters in Colombia, British Guiana, and Brazil.

The Veery is common in Tidewater Virginia from April 15th to May 5th, on his way northward; passing through on his way southward from September 20th to October 20th. In the mountains Professor Smyth reports them "at Blacksburg April 30th to May 6th." Some remain to breed in the higher mountains, or Canadian Zone. They are not a common bird even in that area, and my father reports them only from Hot Springs, where he was unable to find evidence of their having bred. The song of the Veery is acknowledged by all nature lovers to be one of the sweetest of all bird songs, and rich indeed is the person who can boast of having heard it and that of its near relative, the Wood Thrush. Nor is the song of the Veery its only gift to mankind, for its food of insects, gathered from the forest undergrowth and ground, must be counted as no little factor in helping to keep in check many harmful species. They also are fond of all the smaller wild fruit or berries, and distribute the seeds freely in their flights both short and long. The nest is placed close to, or sometimes on the ground, a rather bulky affair of dry leaves, strips of bark, rootlets and grasses. The eggs number four to five, the ground a pale blue; a shade between that of the Wood Thrush and Catbird. Usually they are unmarked, but sometimes sets are found specked with faint markings of reddish-brown, which sets, of course, are prized most highly. I have a set in my collection with only a single egg thus marked, the balance being perfectly spotless. Fresh eggs May 15th to June 1st. Size, .88x.66. Only one brood a season. We found them quite abundant at Mountain Lake, Giles County, altitude 4,500; a beautiful series found between May 25th and June 15th.

GENUS PLANESTICUS.

[761]. *Planesticus migratorius migratorius* (Linnæus).
Robin.

RANGE.—North America. Breeds in Boreal, Transition, and Upper Austral zones from limit of trees in northwestern Alaska, northern Mackenzie, central Keewatin, northern Ungava, and Newfoundland south to Cook Inlet, Alaska, central Alberta, southeastern Wyoming, Kansas, Illinois, Indiana, Ohio, Pennsylvania, New Jersey, and southeastern Virginia, and in the Alleghenies to North Carolina; winters from central Kansas, Ohio Valley, and New Jersey (irregularly further north) to the Gulf coast and Florida, and to Nuevo Leon, Mexico; accidental in Bermuda and Cuba.

The Robin is not what you might call a common breeding bird with us in the Tidewater section south of Cape Charles, although it seems to be working southward along the coast beyond this point gradually. To my knowledge it has bred regularly in the live oaks inside the casement at Fortress Monroe for the last twenty years, these pair remaining the year around. A few pair have been found by us breeding further southwest on the James River Peninsula during the last few years. From Cape Charles northward they are a common breeder. The usual nest of mud and grasses, from ten to thirty feet up, with three to four eggs as a full set, is the general thing. During the fall and spring migrations it is still considered game by the gunners in general,* and large quantities are

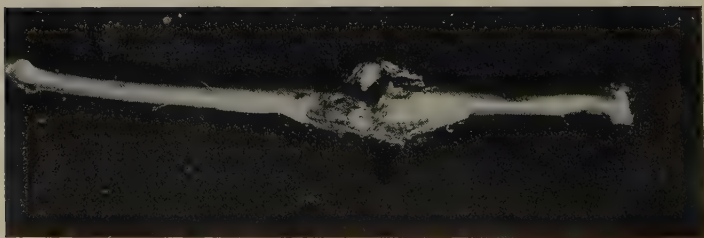
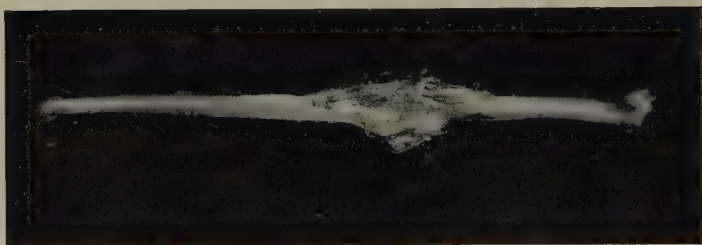
*NOTE.—Since the above was written, the 1912 Legislature has passed an act prohibiting the shooting of robins at all seasons of the year.



PHOTO BY F. N. IRVING.

ROBINS AT HOME.

slaughtered, and until a year or so ago they were sold in the public markets as low as ten cents a dozen. The resident birds, with the exception of those mentioned above, seem to all migrate, those remaining being birds from further north. Eggs, greenish-blue, unmarked. Size, 1.16x.80. Large flights of these birds reach us about the 10th to 15th of October, at this time resorting to open fields and pastures, where large quantities of insects and worms are eaten. At this time, also, the black-gum, holly, and dogwood berries are most plentiful, and are eaten by these birds in great quantities. Many of these northern migratory birds remain in sheltered localities through the winter if it be not too severe, but the majority return to us in the spring migration about March 15th to 30th, during which time countless thousands pass over, remaining long enough to strip the remaining berries from our trees. Every one knows the Robin, and that it should be protected from a beneficial standpoint, as well as sentimental. They rear two broods with us a season. Fresh eggs May 2nd to 10th; second setting July 1st.



PHOTOS BY THE AUTHOR.

WING BONE OF THE GREATER SNOW GOOSE, SHOWING A
FRACTURE HEALED BY NATURE.

HYPOTHETICAL.

[761-B]. *Planesticus migratorius achrusterus*
(Batchelder). *Southern Robin*.

RANGE.—Southeastern United States. Breeds in southern part of Carolinian zone from southern Illinois and Maryland to northern Mississippi, northern Georgia, and South Carolina.

I have put this supposed subspecies in my Hypothetical List because I do not consider it as a breeding bird within our area. The 1910 A. O. U. check list has designated the birds breeding from the Eastern Shore of Maryland and Virginia southward along our coast region as "achrusterus," a southern form. Personally, and I am joined in my views by some eminent ornithologists, I do not consider this a good subspecies, or recognize it as such, and my readers, other than specialists in speciation (apologies to Joseph Grinnell), need not worry about the slight differences in these supposed two forms. The data of the Robin (*Planesticus migratorius migratorius*) applies equally as well to this so-called southern form.

GENUS SIALIA.

[766]. *Sialia sialis sialis* (Linnaeus). *Bluebird*.

RANGE.—Eastern North America. Breeds from Lower Canadian to Lower Austral zone from southern Manitoba, northern Ontario, southern Quebec, and Newfoundland

south to southern Texas, the Gulf Coast, and southern Florida; casual west to base of the Rocky Mountains in Montana, Wyoming, and Colorado; winters most commonly south of the Ohio Valley and the Middle States; resident in Bermuda; accidental in Cuba.

One of our most common birds, and remains the entire year with us. The earliest record of a set of eggs is March 31, 1910, five in number. They were deposited in an artificial nesting cavity, made by sawing off a section of hollow log eight inches in diameter, and blocking up one end entirely, and the other partly so. A number of such nesting sites and tin cans are hung up around my farm, forming breeding places for several varieties of birds. The latest record for this bird is four young just hatched, August 27, 1910, making the third setting and brood hatched by this pair of birds in one season. The nest is nearly always made of just fine grasses, placed in a natural cavity or a deserted woodpecker's hole in dead or live trees, from fourteen to twenty feet up. Eggs from four to five in number, a pale bluish-white, unmarked. Size, .82x.61. Every one knows the Bluebird and loves to have them around the premises. Since the introduction of the English Sparrow (and it has become such a pest around our outbuildings) Bluebirds have become less common, being driven away by them. Those remaining on my place seem to remain paired from year to year. In the summer time they destroy many worms, grubs, caterpillars and beetles, while in the winter they offset a great part of this animal life with berries of the dogwood, mulberry, black-gum, holly, and dried-up poke berries. In the early spring and warm days of winter they give



PHOTO BY THE AUTHOR.

THE BLUEBIRD LOVES A DESERTED FLICKER HOLE FOR A
NEST SITE.

their soft but short song, and reminds one of the nearness of warm weather. During the hard winter of 1912, January to March 15th, I picked up numbers of dead Bluebirds on my farm, showing clearly they are not a bird suitable for standing any protracted length of cold weather. During these cold spells many migrate further southward, returning with the first warm days of late March and early April. The Bluebird is less numerous than in former years. Whether climatic conditions or the extra settling of farm lands and more numerous cats, together with the restoring of old orchards, thus closing the natural cavities so suited for nesting sites, has played the most important part, I am unable to say. If all farmers and suburbanites would supply suitable nesting boxes or cans for them, protected from cats and snakes, I think we could soon have them as numerous as formerly.



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